

OPERATING INSTRUCTIONS and PARTS BOOK
FOR THE
MODEL FM MULTIPRESS



Keep this book for reference

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B. VERNER & CO., INC.

NEW YORK, N. Y.

OPERATING INSTRUCTIONS and PARTS BOOK

FOR THE

MODEL FM MULTIPRESS

Serial No. F 1000 Up

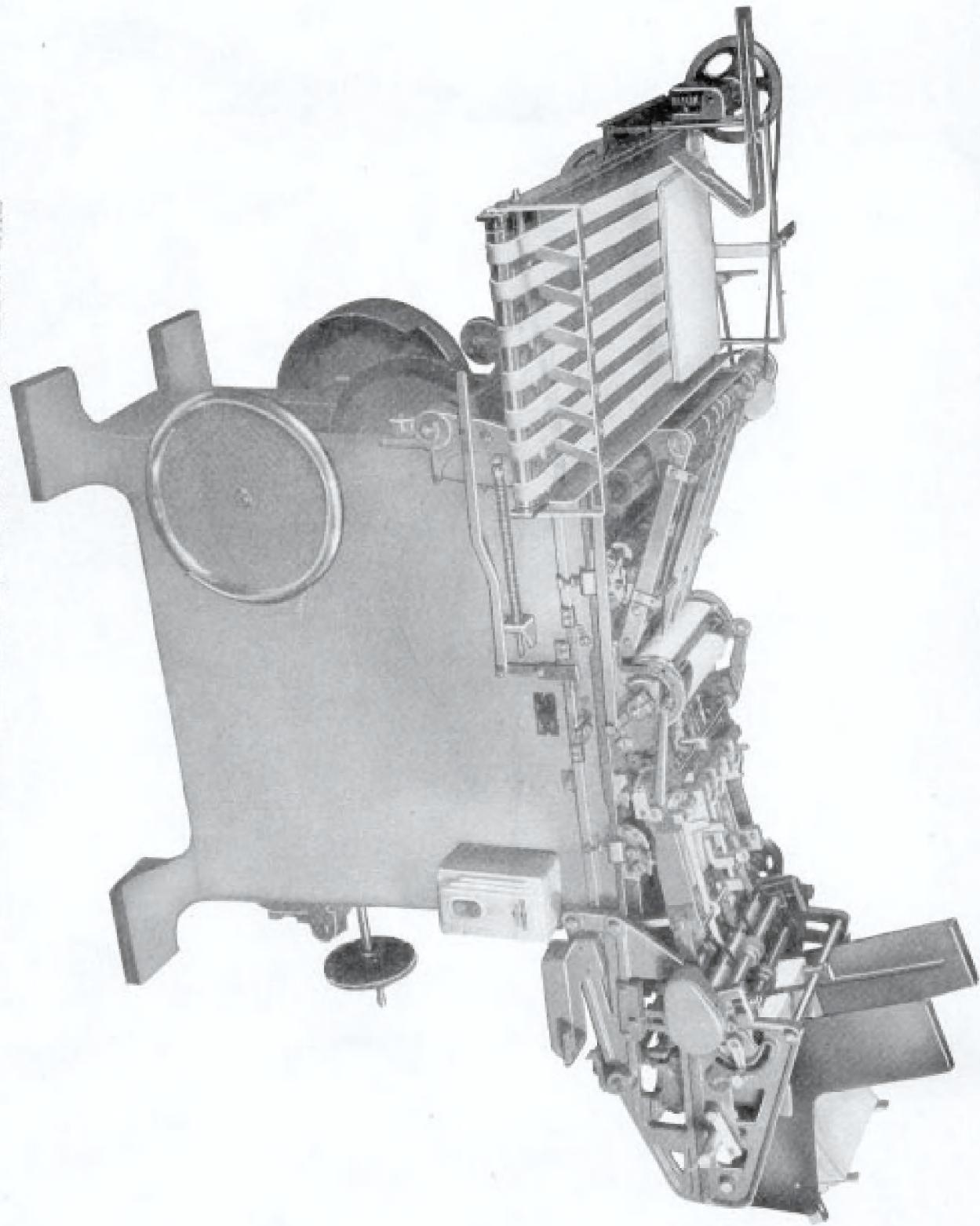
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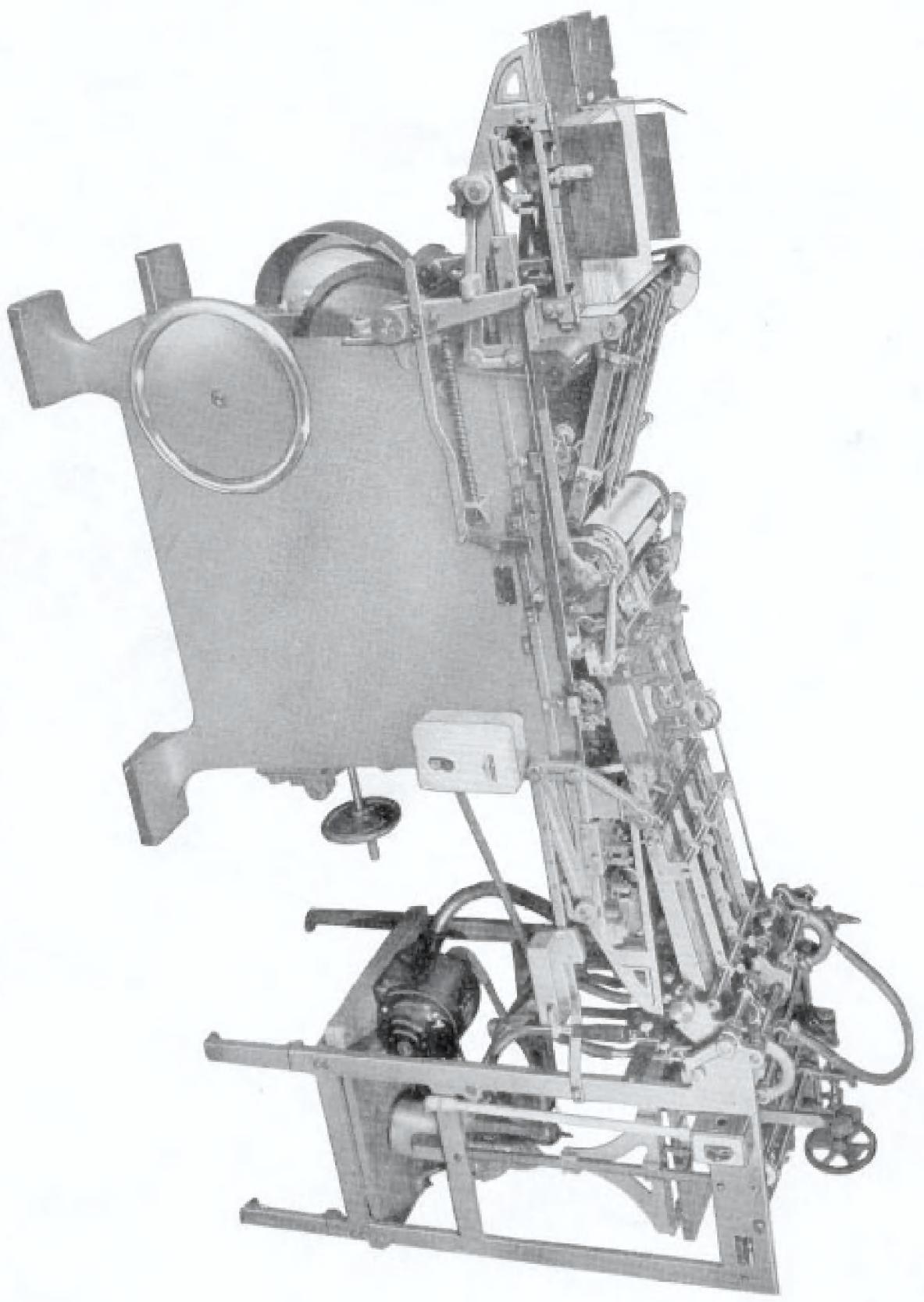
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• NEW YORK, N. Y.

THE MODEL FM MULTIPRESS WITH MODEL K CONTINUOUS FEED.





THE MODEL FM MULTIPRESS WITH SUCTION PILE FEED.

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THE MODEL FM MULTIPRESS

INSTRUCTIONS FOR INSTALLING

The press should be set on 2 x 6-inch skids if the floor is not in good condition, and on concrete or good wood floors omit the skids and set a piece of $\frac{1}{2}$ " felt under each corner foot. Bolt the press to the floor with lag bolts in each corner foot.

If a Model K Continuous Friction Feed is used, this is fastened into position on the brackets at the rear of the machine. Connect the chain over the sprockets, attach the belt and the long feed driving rack and the feed will be ready to operate.

If a suction pile feeder is supplied, (used where sheet work is in the majority) it is set up at the rear of the press so that the feed conveyor board is resting on the rear press brackets. The feed is held in position by two bars which fasten to sides of feed and to the press.

The feed is driven by the long bar that connects the short lever on the lower part of the feed to the vertical lever that drives the bed on the press.

Instructions for operating the feed will be given later.

INSTRUCTIONS FOR OPERATING PRESS

Oiling. Oil all oil holes, oil cups, tracks and all moving parts every day using a light machine oil equivalent to S.A.E. 20 in cold weather and S.A.E. 30 in warm weather. Oil cylinder shaft, feed rollers, and other fast moving parts twice a day. Oil H link under bed daily. Apply grease on gear teeth weekly. Oil motor every 2 to 4 months depending on the maker's instructions. Oil the air feed pump with a heavy oil weekly in the bearings and add about one teaspoonful in the pump chamber monthly.

STANDARD PRESS OPERATING PROCEDURE IS RECOMMENDED IN FOLLOWING ORDER:

1. Ink press
2. Put on form
3. Set paper ejectors or delivery rolls. Be sure ejectors clear sides of type and chase bearers.

4. Set register guides
5. Make ready
6. Set feeder
7. Set jogger
8. Arrange all sheet control devices

9. Operate machine by turning handwheel clockwise one full revolution to insure that all settings are correct and then inch machine by power for a few impressions.

If equipped with variable speed pulley regulate speed by turning handwheel which moves the motor base.

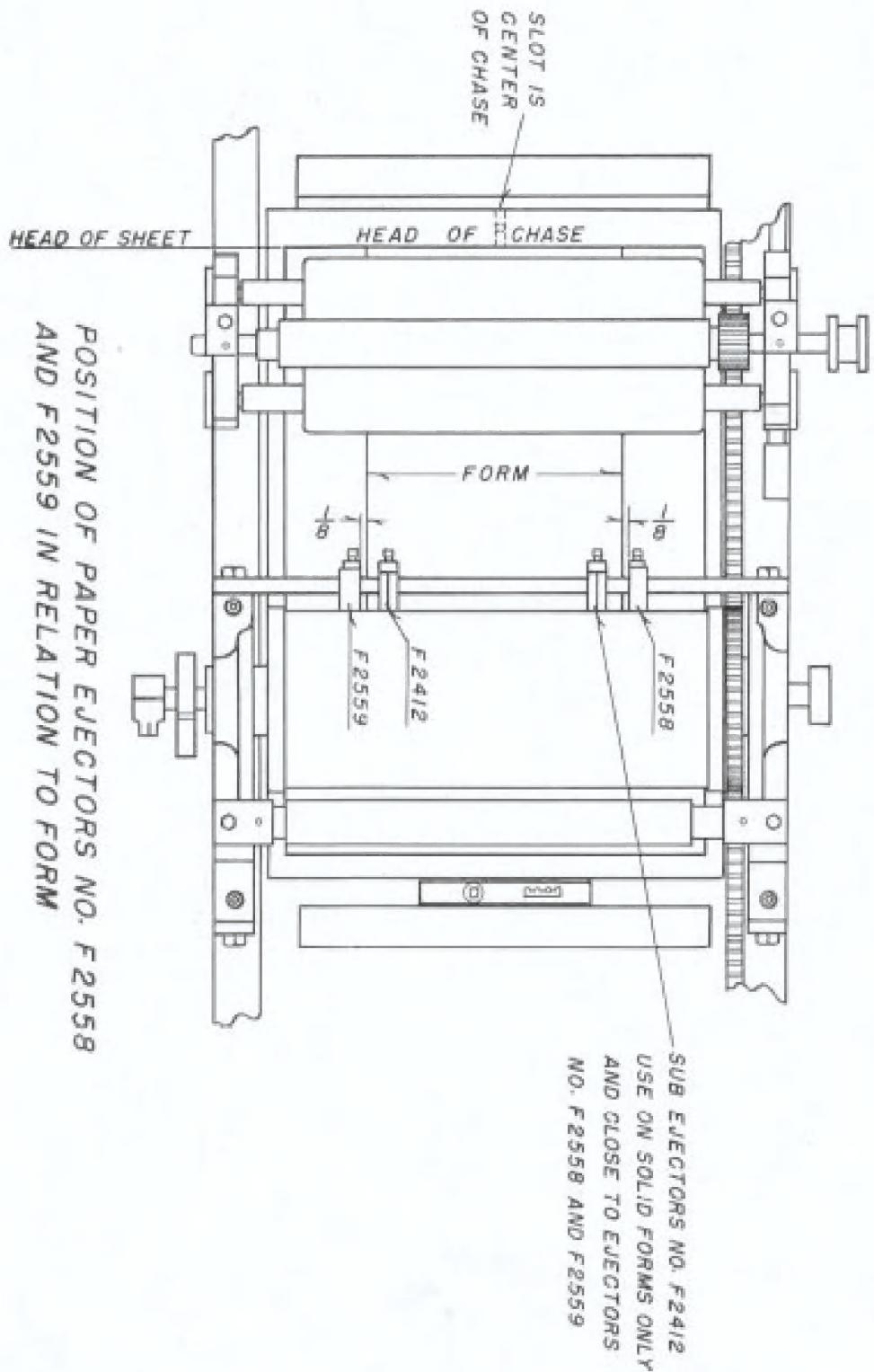
PUTTING ON THE FORM

Set the form in the chase with the head at the end of the chase which has the $3/16$ " square slot in the bottom. The form should be centered between sides of chase and spaced from front end according to margin required as per copy. Be sure to fill all blank spaces in the chase with furniture which will prevent the type or quoins jumping out should a quoin loosen.

To place the form in the machine, raise the register board, swing up the rear roller bracket, loosening the thumb nut and screw first, move the bed to the extreme rear and slide the chase in. See that the slot in the chase slides over the small locating pin at the front end of the bed. Loosen the quoins, tighten chase down in place, plane down form and tighten quoins.

Before moving the bed, set the paper ejectors one on each side of the form. BE SURE TO DO THIS OR EJECTORS WILL DAMAGE TYPE as they do not clear type or leads. (use wood furniture on sides of form). These ejectors deliver the sheet and strip same from the form. The small roller touches the tympan when the cylinder is down on impression.

On machines equipped with grippers, set the small delivery rollers at any white space on the printed sheet. These small rollers should be set against the tympan when the cylinder is down on impression. This is done by loosening the screws that hold the bracket at each end to the cylinder boxes. The bracket can then be shifted so that rollers are in proper position lightly against the cylinder packing. Be sure the conveyor sticks clear the grippers.



POSITION OF PAPER EJECTORS NO. F2558
AND F2559 IN RELATION TO FORM

To trip the cylinder to impression position, either feed a sheet down the register board under the sheet detector or hold the sheet detector up. It is advisable to turn the machine over by hand using the handwheel when doing this the first time. The sheet detector is part No. F2402 shown on parts diagram Page 34.

A word here explaining the difference in a gripper equipped machine and one with ejectors only:

The elector type is designed for simplicity of operation and will deliver stock that is delayed in reaching the front feed rolls due to a turned corner or other reason. When using these, there must be at least $\frac{1}{4}$ inch margin on each side of the sheet, that is, the form must be $\frac{1}{2}$ inch smaller than the width of the sheet. They will not clear the form (type, cuts, rules or slugs).

The grippers are used where work predominates that must bleed off the sides of the sheet. The delivery rolls that are used with the grippers clear the form, but should be placed evenly at any blank space on the printed sheet. When using grippers, all parts and adjustments (guides, feed, etc.) must be correct or the sheet may be delayed and miss the grippers.

To continue with the operation of the machine, you now have the form on and the ejectors (or delivery rolls) in position. Turn the machine over by means of the handwheel to be sure that the ejectors clear the form and no obstruction is on the bed. Next turn the ink roll brackets in place with bed at front. Be sure the vibrator spool engages with the small roll on the vibrator arm casting and the gears mesh properly with the rack, then TIGHTEN THE CLAMP THUMB SCREW securely and TIGHTEN THE LOCK NUT.

We are assuming the rollers are set. Instructions on setting these will be given later.

SETTING THE REGISTER GUIDES

Lower the register board into position (be sure part No. F2424 on the end of the moving guide shaft sets outside the forked shaped casting No. 2239) and move the bed to the extreme rear (feeder end). In this position the side guides may be set as they are in closed position for sheet register. Fold a sheet through the center, unfold and slide it under the top sheet guides on the register board with the crease lined up with the center of the middle tape which is the approximate center of the machine. Now adjust the moving guide to the sheet and then the stationary guide is set lightly to the opposite edge of the sheet.

Remove the sheet and set the jogger (with the bed at extreme rear) or envelope extension delivery. On the jogger, the edge of the long board No. C1526, Page 38, is the center.

It is advisable to operate the machine by turning the handwheel by hand for a few turns if unfamiliar with it to be sure everything is set and locked properly. Then run by power and move the two outer registered board tapes, No. F2569 Page 34, in position one over the edge of the right guide and the other close to the stationary spring guide. Now set the top sheet guides, spacing same equally on sheet near the corners. Then space out the delivery conveyor tapes and the wood guide sticks to accommodate the sheet and clear grippers.

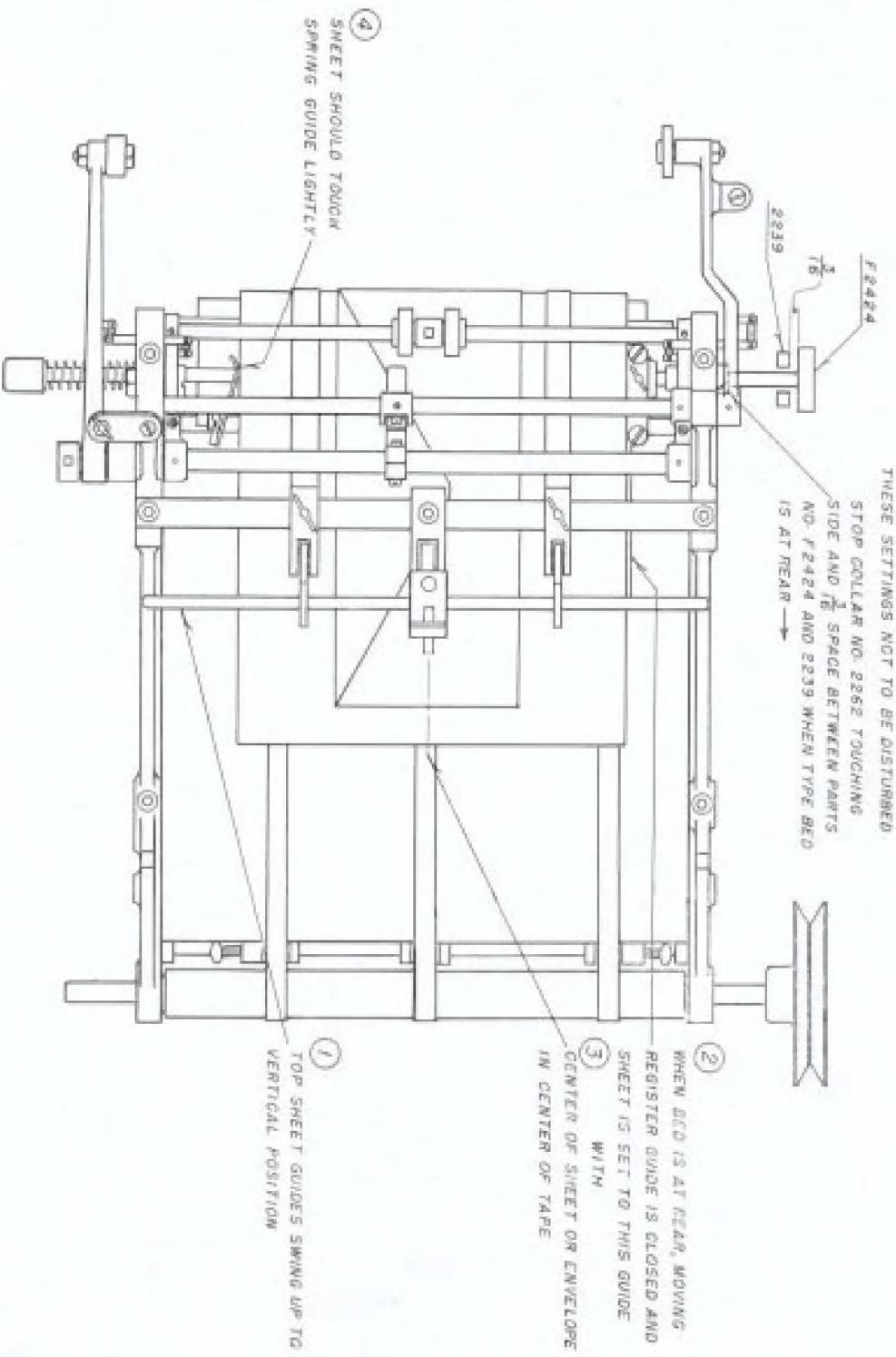
Next, swing up the top sheet guides and slide a sheet partly down the register board, holding on to the tail end; run the machine and let sheet go when the moving guide is open. As an alternative to above, the sheet may be fed by the automatic feed. Instructions for operating same will be given later.

If the position of the printing is correct on the sheet, you are now set to run with the exception of the cylinder makeready. If position at head is incorrect, shift form in chase. If incorrect at sides, reset side guides on register board when bed is at extreme rear only. See diagram on page 4.

CYLINDER TYMPAN MAKEREADY

Trip cylinder to get impression on the packing, then operate machine stopping with the gap in cylinder up when bed is moving to rear. Loosen the tympan reel lock screw in lock No. F2586, Page 33. Unreel by inserting pin No. 2662 in one of the four holes in the tympan reel and turning to the right. Hold ends of tympan paper and turn the hand wheel by hand clockwise until the paper is almost fully unwound from the cylinder in which position any makeready sheet can be pasted in. Rewind by turning handwheel clockwise.

When replacing the tympan have the cylinder gap up. Unreel. If gripper equipped, slide the gripper bar out of the notch in the gripper crank and swing up. This will expose the two screws that lock the front tympan clamp No. F2584. Loosen these screws and remove old tympan from clamp but leave it under the cylinder to help slide new tympan in. Stand new tympan sheets into clamp, tighten clamp screws, fold tympan and slide under cylinder between old tympan and cylinder. REPLACE THE GRIPPER BAR INTO THE NOTCH IN THE GRIPPER CRANK. Insert the other end of the tympan sheet



SETTING REGISTER SIDE GUIDE TO SHEET
FOLLOW ①②③④

into slot of the reel and turn reel to left until packing is snug; then tighten the screw in the tympan reel lock. Do not tighten reel too tight as it will bind the gripper bar.

The cylinder should be packed with enough sheets to bring the top draw sheet even with the cylinder bearers less the thickness of the stock to be run.

This company can furnish regulation tympan draw sheets cut to size, also rubber cylinder blankets of .022 and .042 inch thickness for cylinders that have been machined down to accommodate same plus a draw sheet and two hangers.

SETTING THE FORM ROLLERS

Synthetic rubber form rollers are usually supplied and once set it is seldom necessary to reset. If glycerine and glue rollers are used it will be necessary to trim the ends so that the composition does not ink up the chase bearers, gears, etc.

To set the rollers proceed as follows: Move bed until ink plate is under the form rollers, remove vibrators, loosen the screws that hold the form roll bearing blocks No. F2167-8 onto the side of the bracket No. F2164 & F2166. Set the bearing block by pressing the form roll lightly against the ink plate and tighten the hexagon head screws locking the bearing blocks. Now put vibrator in position and lock vibrator clips No. F2291 in place.

With this setting the rollers should make a streak $\frac{1}{4}$ inch wide when set down on the plate.

The proper size to recover these rollers is $1\frac{1}{2}$ -inch diameter $\times 8\frac{1}{8}$ -inch long, $1\frac{1}{8}$ -inch from one shoulder on stock and $1\frac{1}{2}$ -inch from the other.

Synthetic rubber form rollers of correct size can be supplied by this company.

SETTING THE ANGLE ROLLERS

These are not needed except on heavy forms.

Set these while on the ink plate by turning the sockets which raise or lower the roll until there is $1/32$ inch space between the roller stock and the bearing socket. To turn the socket remove the angle roll and vibrator; also loosen the screw that locks the socket in the casting.

The correct size to cover these is $1\frac{3}{4}$ inch diameter $\times 8\frac{1}{8}$ inch, $1\frac{1}{8}$ from each shoulder on the stock. The ductor roll has the same dimensions.

SETTING THE DUCTOR ROLL

This is set originally at the factory and changes in the diameter of the ductor roll can be compensated for by moving the fountain forward or back.

If the original setting has been disturbed, proceed as follows: Loosen screws holding fountain and move away from ductor roll. Next move the bed so that the cam roll No. F2276 is just starting on to the bevel under the ink plate and set the stop screw in the casting No. 2186 against the large bracket No. F2191. Now move the fountain up until the metal fountain roll touches the ductor roll and tighten the screws that hold the fountain bracket in position.

Follow the same procedure for the rear fountain, bringing the bed to the rear. Casting No. 2186 and bracket No. F2191 are shown on page 28.

On machines that are equipped with the fountain ductor trip, this can be adjusted at the same time as follows: Move the bed to extreme front and set the lock block No. 2390, Page No. 28, $1/16$ -inch away from the end of the dog No. 2432. Move the bed to extreme rear and repeat on part No. 2385. Run the machine and with lever No. F2430 hooked over the stud on the left end and using the left hand notch, the ductor roll should trip and touch the fountain roll only when a sheet is run. If it trips all the time, loosen screws and move part No. 2427 to the right. If the ductor roll does not trip at all when sheet is run, move part No. 2427 to the left.

When lever No. F2430 is set on the stud using the right notch, the ductor roll will touch the fountain roll at each stroke of the machine regardless of whether stock is run through or not.

FOUNTAINS

The flow of ink is controlled from the fountain by the series of thumb screws in back and by adjusting the link on the fountain pawl lever to take a longer or shorter stroke. Using the stud in the lower hole gives a shorter stroke. To get at rear fountain on machines equipped with continuous feed, remove the dust pan which slides out and raise the feed which can be held in this raised position by the bracket No. 193. DO NOT

IRIN MACHINE WITH FEED UP. To clean fountains thoroughly remove the blade by removing the five flat head screws.

On most work it is only necessary to use the front fountain as the front rollers cover $4\frac{1}{2}$ inches. When printing at larger form, the rear rollers must also be used. With this system it is possible to print two colors at one impression. The roller brackets are adjustable back and forth to separate the colors. Of course, the colors must be divided, that is, they cannot intermix. To move the roller brackets, it is necessary to remove the guard tubes No. F9-F10-F11.

SETTING THE MODEL K CONTINUOUS FEEDER

To set the feeder, move both stock guides to the extreme side position and lay the sheet on the large feeding rollers with the center crease in the center of the upright front stock guide. Then move the side stock guides to within $\frac{1}{16}$ -inch of the sheet. Next set the rubber caliper roll by means of the outside lever No. 10A, moving down to open, and up to close. It should be set so that the sheet can be pulled back with just a slight drag. If double feeding occurs, close slightly. If sheet wrinkles or does not feed properly, open slightly.

This caliper rubber, when worn in one spot, should be moved around a little to a different position. There are three screw holes in the hub to facilitate shifting. The caliper rubber should be frequently replaced and directions for same will be given later.

Next, set the driving lever No. 69 (this is attached to the long driving rack with the shoulder screw No. 91) in the proper hole which depends on the length of the sheet to be run, e.g., in No. 4 for a 4-inch sheet, in No. 8 for 8-inch sheet or larger.

The rear feeding rolls are usually set close together in the center of the feed which makes it convenient to run the narrowest and widest stock. On stock wider than the span of the rollers use the auxiliary lower stock supports No. 142 and 143 to prevent corners of the stock catching on the lower part of the side stock guides or move the two outer rollers nearer to the side stock guides. These rollers are held in place by a flat point set screw.

Now lay one sheet in the feeder first (always do this when feeder is empty instead of dropping in the whole pile) and add the rest of the sheets to be run. Do not pile in more than 500 of 16-lb., $8\frac{1}{2} \times 11$ inch sheets or its equivalent as the weight will prevent proper feeding. Envelopes can usually be piled to the top of stock guides.

Next, adjust the two rear stock guides No. 46-A to the back of the pile. These should be moved in or out to the best feeding position. Release the clutch latch No. 149 and run the press so that the clutch engages and the sheet feeds out to the pullout rollers.

These rollers are adjustable for more or less pressure by means of the two knurled nuts over the bearings at each end. Use only enough pressure to draw out the sheet. One roller may be used on ordinary envelopes and narrow sheets. Turn knurled nuts to right to loosen tension on sheet.

Suggestions for adjusting the Model K Feeder:

Ordinary envelopes should be run with the flap up and to the left side of the feeder. Open end envelopes run best with the flap at front, if open run flap at rear. When running paper, do not pile more sheets in than the equivalent in weight to 500 sheets of 16-lb bond paper. Should feeder take doubts, it is probably due to one or more of the following reasons:— Caliper open too far, front lower feeding roller not running true, or stroke on lever No. 69 too long.

Feeder does not feed regularly:—Stock guides No. 39-A and No. 40-A too close to stock, caliper incorrectly set, stroke on lever No. 69 too short, feeder rollers badly worn or glazed from lack of use. (A little glycerine or water applied to the surface will help this) springs No. 50 on the driving ratchet may be broken.

Stock bends down on corners before passing caliper roll:—Front feeding roll eccentric — replace. Attach the auxiliary lower guides No. 143 which hook on parts No. 43-44 and parts No. 39-A and 40-A. Be sure this piece is not resting on a feeding roller.

Stock curls up and strikes upper guides on register board:—Caliper set too tight. Reset and also attach top sheet auxiliary guides No. 140 which hook on the caliper shaft No. 151.

Stock wrinkles when pulled out of feeder by pullout rollers:—Caliper set too tight, front feed roller eccentric, too much stock in feeder, pullout rollers too tight. Reset these with nuts No. 129. Feeding stroke too strong. Tension on leather brake belt too strong.

Clasp envelopes and tags will feed better if two caliper rolls are used each spaced about $\frac{1}{4}$ " away from the side of the lower front feeding roll instead of one over the center of the feeding roll. This is also a help when feeding glassine envelopes, coated stock and some cartons.

CHANGING THE ROLLERS ON THE FEEDER

Refer to the feeder diagram Page 8 and 9.

To change the rear feeding rollers remove screw No. 91 on lower end of driving rack No. 145; remove nut No. 113 on end of clutch shaft No. 148. Pull out clutch handle on other end so that the clutch plate No. 31 can be removed. Take off leather brake around the small pulley No. 15 on the rear feed roll shaft. Loosen the screw No. C-6197 in this pulley and the screws No. C-6185 in the feeding roller, and the shaft can be withdrawn with the entire clutch assembly attached.

When replacing the rollers, be sure that they are fitted with flat point set screws which will not hurt the shaft. Also see that the brake spring is on the lower side, not the upper.

To change the front feeding roller: First remove the rear rollers and shaft as above, then loosen the screw No. C-6197 in the collar No. 46; loosen the flat pointed set screw in the hub of the feeding roller and the shaft may be withdrawn from the right (driving) side of the feeder. NOTE: When replacing this roller, be sure to use one supplied by the manufacturer of the machine as it is essential that it run perfectly true. These rollers are lathe ground to insure concentricity and are supplied in a rubber of the correct quality for the purpose.

The rear rubber rings may be put on separately or received at the factory.

To change the caliper roll No. 152.—Remove the screw No. 150 in the adjusting lever No. 10A and slide out the shaft No. 151 and lever assembled after loosening the flat pointed set screw in the caliper roll.

To remove pullout rolls No. 153, take out screw No. C-6105 and remove guard No. 113. Lift out bearings No. 58 with the adjusting screw and nut assembled. These rollers must also be supplied by the manufacturer to be correctly ground, correct size and true.

All the above rollers, when worn, should be returned to the factory and rebuilt ones will be promptly supplied at an ex-change price.

Dust pan under feeding rollers can be removed for cleaning.

SETTING THE MODEL R SUCTION PILE FEED

This feeder is placed back of the motor and off the press and

fastened with two bars that attach to the sides of the feed and to the back of the press. Four extension legs are furnished to raise feed to the proper height. The main cam that operates this feed is driven by levers which are in turn operated by a long bar which fastens to the press vertical lever that moves the bed. The other end of the long bar is connected to the center short lever on the feed.

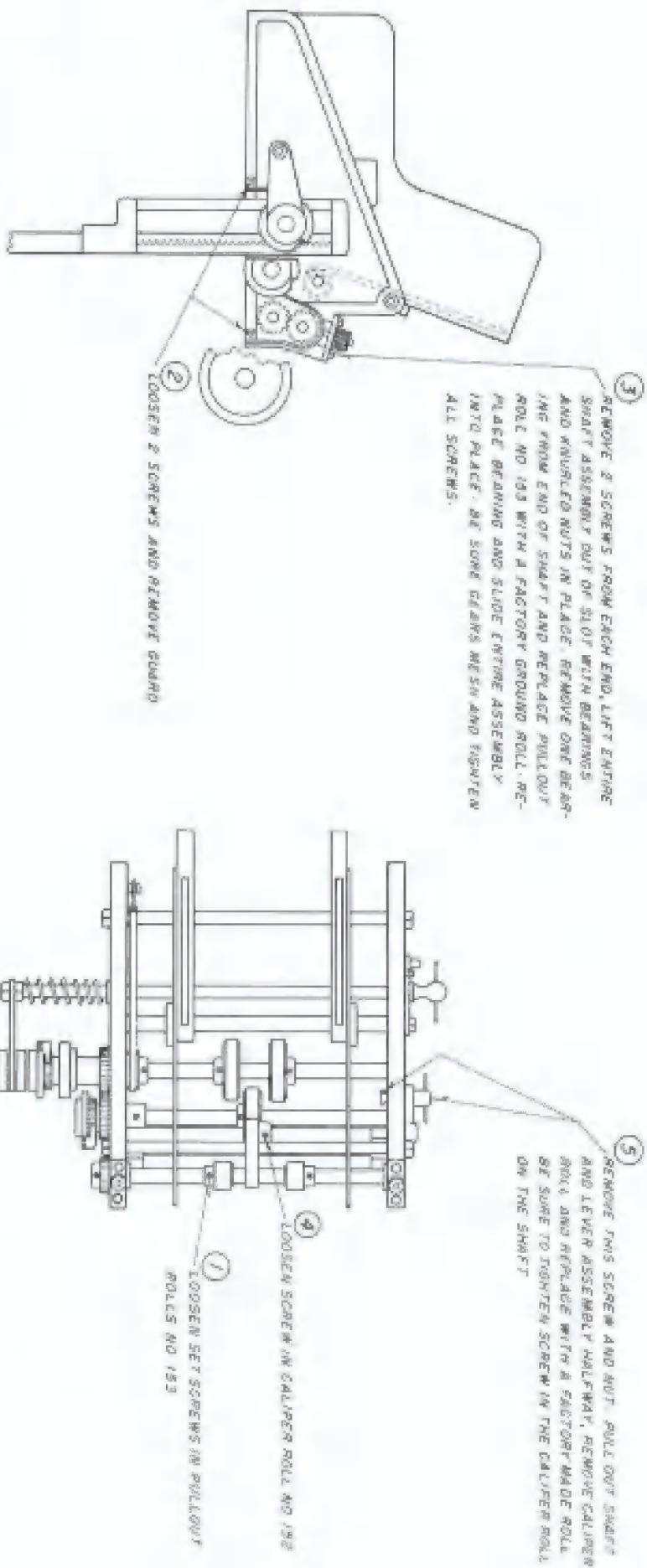
When properly connected the bottom of the slot in the main cam will almost touch the cam roll when the bed of the press is in the front (finger end) and the open end of the slot should be even with the top of the cam roll when the bed is at the extreme rear.

The feed conveyor board is driven by a round belt from the inside groove of the double pulley on the press register board. Be sure that the three take up separator spools under the conveyor board do not rub against the steel roll as it will slow down the sheet.

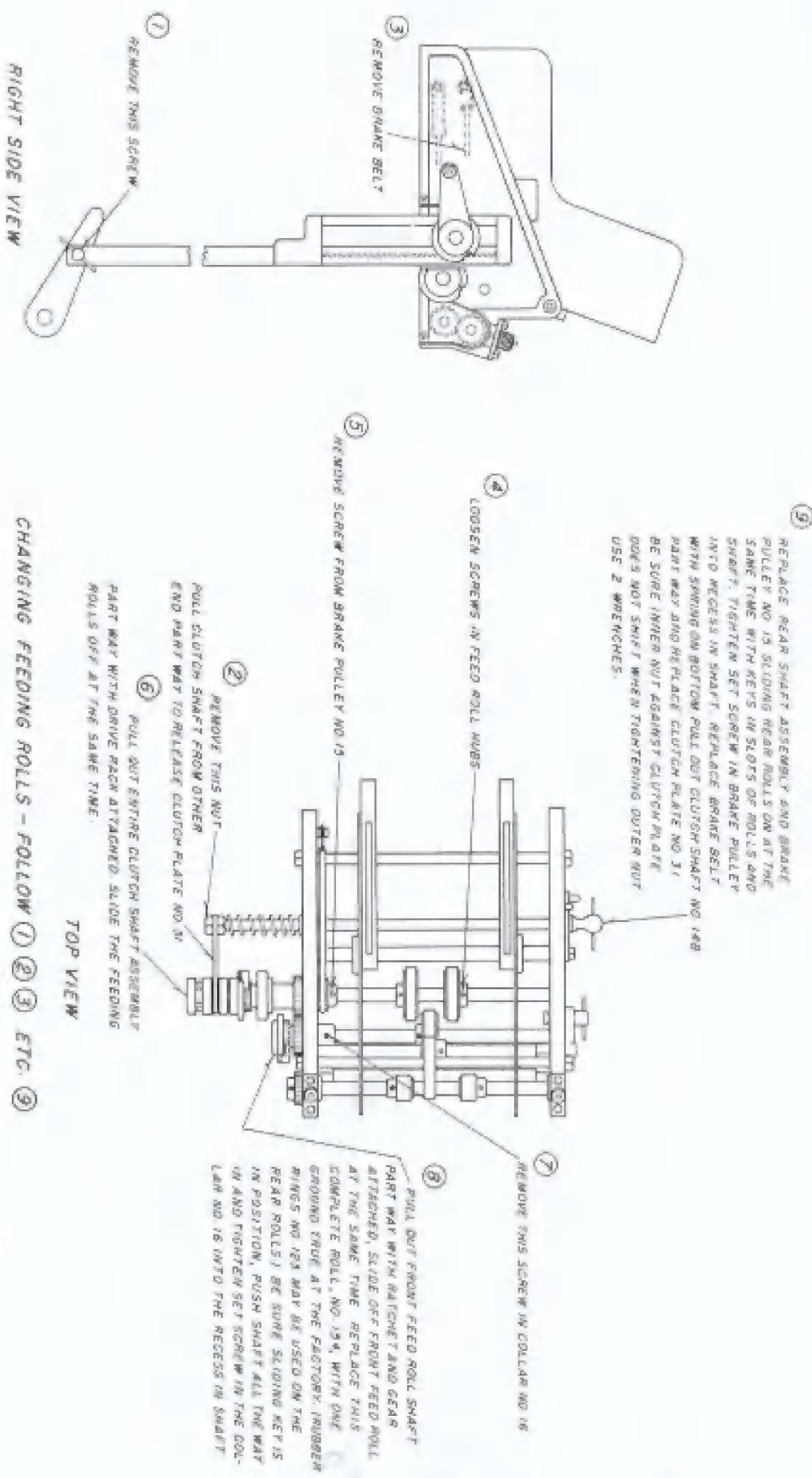
To set the feed, fold the sheet to be run in the center, i.e. fold and place on the elevator table with the crease in the center of the front edge which is originally set in the center of the feed. Now move the front corner guides (with blowers attached) to the sheet and set the two side stock guides and the rear guides allowing about $\frac{1}{4}$ -inch between stock and guides. Next raise the elevator table by means of the handwheel until the sheet (or table) is level with the angle on the upper end of the elevator control finger No. 5086 so that the finger No. 5120 is about $\frac{1}{8}$ -inch in under the flat part of the pawl casting that raises the table. With this setting the stock will raise to the proper height as sheets are fed from the pile. If not set correctly, the table and stock will raise too high and the suction nozzle will strike hard on the table or stock and force the main cam out of position. If this should happen reset cam as per previous instructions by loosening the set screws on the lower lever No. 5080, and re-tighten.

After guides are set, lower the table and load same until the stock is just below the tile control finger. Now pull the two dogs on the ratchet so that the table will rise as the machine operates.

Next start the feed motor and set the blowers to get an even separation. The blower tubes can be moved up and down and turned by loosening the thumb screw. The volume of air is controlled by adjusting the round flat valve on the pump lever head.



- TO REPLACE PULLOUT ROLLS NO. 153 FOLLOW ① ② ③
TO REPLACE CALIPER ROLL NO. 152 FOLLOW ④ ⑤



The vacuum in the suction nozzle is adjusted by turning the valve No. 5037 on the top far side of feed near the sheet starting handle.

This valve operates differently than the blower valve; it covers a small hole near the starting handle and if a large hole in the valve lines up with the hole underneath, more air will escape and there will be less in the suction nozzle. If a small hole is used or the valve covers the lower hole entirely, there will be more suction. Never use more suction than necessary or double sheets may be picked up. Don't use too much blow from separator tubes as it may blow back the corner of the paper.

The paper safety caliper is directly alongside the suction nozzle and its lower end almost rests on the front safety shoe. This is adjustable by means of the two thumb screws on top to allow only one sheet to pass through.

* Start the feed motor, turn on the sheet starting lever and inch the press to see that the sheet is fed down to the guides properly. If all settings were made as instructed, the sheet should feed down properly. In some cases, as with curled stock, it may be necessary to change the height of the table by adjusting the pile control finger as more or less blow may be required.

With the exception of ordinary adjustments, no serious trouble will be experienced until the main cam and the various levers and pulleys connected with it are badly worn in which case all these parts would have to be replaced, preferably at our factory.

The hoses should be cleaned occasionally and replaced when worn.

The pump tank should be emptied and fresh station waste or cheese cloth inserted about once a year. Too much or too light an oil in the pump will spray on to the paper.

In addition to wear in the cam, etc., a worn pump will cause a lack of power in the suction nozzle.

For best feeding results set the pile control finger to keep the elevator and pile as low as possible and still have the suction nozzle pick up the sheet.

HINTS TO OPERATORS

Bear in mind that your press has been delivered and installed in mechanically correct condition. Tampering with timing and factory adjustment of various parts will more likely require

a call for a factory adjustment than aid the operator to correct a difficulty in operation that may have nothing to do with adjustment tampered with.

Register Variation: Variation in register is usually caused by one or more of the following: Register side guides too tight to the sheet, binding same. Feed roll No. F2542-A dirty with paper lint, etc. Improper adjustment of push rolls No. F2564, Page 14 and Page 34. These are adjusted by the thumb screw No. 2990 as instructed on Page 14. There are two screws in the end bearings No. F2254 and F2460 Page 34, which are set at the factory so that the push rolls have fairly even pressure and usually do not require resetting unless disturbed. Ejector band binding against cylinder—see page 14. Loose belts driving the register and feed boards, loose register board tapes No. F2469, weak feed roll springs, worn feed rollers and bearings, and worn main rack and intermediate gear to feed rolls.

Sheets not ejecting from cylinder section: On ejector equipped machines, the ejector band may be bent or the ejector bar No. F2565 bent so that the band binds against the cylinder. Small rolls on ejector not touching cylinder packing: These should touch tightly when cylinder is tripped and oiled occasionally with a drop of light oil, see Page 14. Should it be necessary to replace ejectors, this can best be done by removing bar No. F2565 and place ejectors on same before putting into position.

Tacky ink and a large form with little margin for ejectors will allow the paper to stick to the form; sub-ejectors No. F2412 will help, also reduce the ink with linseed oil or commercial ink reducer.

If sheets stick on delivery conveyor tapes, use shoe roll No. C6107, Page 35. If due entirely to static electricity, use lined stretchers across the conveyor and an electric heater (obtainable from this company) arranged above the jogger. If the cylinder trip is out of adjustment, the sheets will not eject properly. More about this later.

Sheets not ejecting on gripper equipped machines: Register guides too tight to the sheet, binding same. Feed roll No. F2542-A dirty with paper lint, etc. Improper adjustment of push rolls, see instructions on Page 14, for adjusting these. Loose belt, driving register and feed boards. Loose register board tapes No. F2569. Weak feed roll springs. If the cylinder trip is out of order, the sheets will not be picked up and delivered by the grippers. It is advisable to check this before replacing parts or making other adjustments. Part No. F2664, Page 35, worn or

bent, tyman reel No. F2685 worn, gripper bar No. F2615 bent, spring No. F23 broken, cam roll No. 2614 worn, cams No. F2653-F2654 worn, worn cylinder drive pin No. 2177, worn cylinder gear, feed rolls, lame gears on feed rolls, bearings and main rack worn, worn main gear No. C1918, pinion No. F1014, main shaft No. F1974, pins in vertical drive lever No. F1036, cylinder shaft No. F2240-1, Page 15, so that it presses the latch No. 2527 to within the thickness of a sheet of paper from the bottom of the notch in the collar No. 2537 on the end of the cylinder shaft. The space between the end of the latch and the collar should be 1 $\frac{1}{32}$ -inch when the cylinder is up and the latch is free to move up if lever No. F2249-1 is raised. Setting of the cylinder shaft will be given later.

SETTING THE CYLINDER TRIP

See diagram on Page 15. First make sure the taper pins holding the cylinder operating levers No. F2183-F2185 to shaft No. F2281, Page 17, are not bent. Lever No. F2185 should just touch the casting marked "stop" when the cam roll No. F2181 on the lower lever is touching the low side of the cams No. F2180, with a maximum space of $\frac{1}{16}$ " between cam and cam roll. If not, the taper pins should be replaced and levers reset. If unable to do this, send the assembly to the factory for repair. See diagram on Page No. 17.

The main cam No. F2180 is set at the factory to a position that just starts to turn the cylinder shaft when the cam roll No. 2251 is drawn in the flat on the cam No. F2282 (which is attached to the cylinder gear) just before the latch No. 2527 starts to move up. This main cam No. F2180 is securely attached and only wear after many years of use would affect the cylinder trip.

Turn the handwheel until cam roll No. 2251, Page 15, which rides on the cam alongside of the cylinder gear, is on the high side (not down on the flat) and in this position set the sheet detector body No. F2398-1 as shown on Page 15, with the edge of part No. F2399 as close as possible to No. F2406 allowing the detector (distinguisher) No. F2402 will be able to drop down when no sheet is under.

Next, place a sheet of paper under the sheet detector No. F2402 and adjust the thin screw so that the paper has raised the detector to the position as shown on the diagram, Page 15. Do not turn this screw too far down or the detector will buckle and delay the sheet. This setting need not be disturbed for ordinary stock, sheets, envelopes, etc. On bulky stock it may be necessary to raise the screw slightly.

Now operate the machine by hand so that the cam roll No. 2251, Page 15, has just dropped down onto the flat of the cam next to the cylinder gear and adjust the screw in the casting No. F2240-1, Page 15, so that it presses the latch No. 2527 to within the thickness of a sheet of paper from the bottom of the notch in the collar No. 2537 on the end of the cylinder shaft. The space between the end of the latch and the collar should be 1 $\frac{1}{32}$ -inch when the cylinder is up and the latch is free to move up if lever No. F2249-1 is raised. Setting of the cylinder shaft will be given later.

The trip should operate correctly if all adjustments are made as instructed, but in some cases it may be necessary to raise or lower the screw in casting No. F2249-1 slightly up if cylinder does not trip with a sheet feeding through. The foregoing applies only if all other settings are correct, i.e., sheet detector, etc.

Parts that may wear and cause trip troubles are angles No. F2399-F2406 on sheet detector, latch No. 2527, springs No. 2511, Page 33, collar on the cylinder shaft (this is usually supplied by the factory assembled with the shaft to insure proper position). General wear in the main driving mechanism (main gear, pinion, shafts, etc.) will throw the trip mechanism out of adjustment.

TO REMOVE AND REPLACE CYLINDER

Refer to Parts Diagrams, Page 33.

First turn the flywheel by hand clockwise until the oil hole in the cylinder gear side is up.

Remove screw No. 2340, Page 28, drive out lever pin in collar No. 2267 on opposite end of cylinder shaft, (be sure to strike small end of pin) and remove this collar. Also remove the long oil cup on the shaft.

Remove the screw that holds the bushing No. 2316 (operator's side of cylinder shaft) and pull out shaft with casting No. 2225 attached. If machine is equipped with grippers remove part No. 2225 and remove F2280, before removing bushing No. 2316 and remove upper gripper cam No. 2654 which is between the cylinder and the cylinder box. Swing cylinder up and remove pin No. 2114 will come out also.

When replacing see that the time mark on the gear (or responds to the mark on the rack). This arrow mark is on the gear tooth opposite the rectangular slot in the gear and on the rack tooth space that is in line approximately with the character

centering pin. If not, remove bushing No. 2316 and set gear in proper position, then replace bushing. See Diagram on Page 14.

Place pin No. 2177 into proper hole in cylinder and see that same enters the rectangular slot in the gear when inserting the cylinder. Swing cylinder into place and insert the cylinder shaft. Replace screw that holds the bushing No. 2316 and the collar on the opposite end held by the taper pin. Replace screw No. 2340.

If the casting No. 2225 has been loosened on the shaft, turn the flywheel until the arm No. F2185 is in "off impression" position. See that the notch in the collar No. 2334 is about $1\frac{1}{32}$ " away from the latch No. 2527 before tightening casting No. 2225 on the shaft, see Diagram on Page 16.

When the cylinder is tripped, the arm No. F2185 will be against the "stop" casting and the cylinder riding lightly on the chisel bearings. In this position the cylinder must be concentric with the cylinder gear or the printing will be slurred. If not concentric it is due to an incorrectly fitted collar No. 2334 on the end of the cylinder shaft or the pins that hold levers No. F2185, F2183 onto shaft No. F2281 are bent. (See previous instructions under heading "Setting The Cylinder Trip" Page No. 11, and diagram on Page No. 15.)

CHANGING THE TAPES NO. C1565 ON THE DELIVERY CONVEYOR

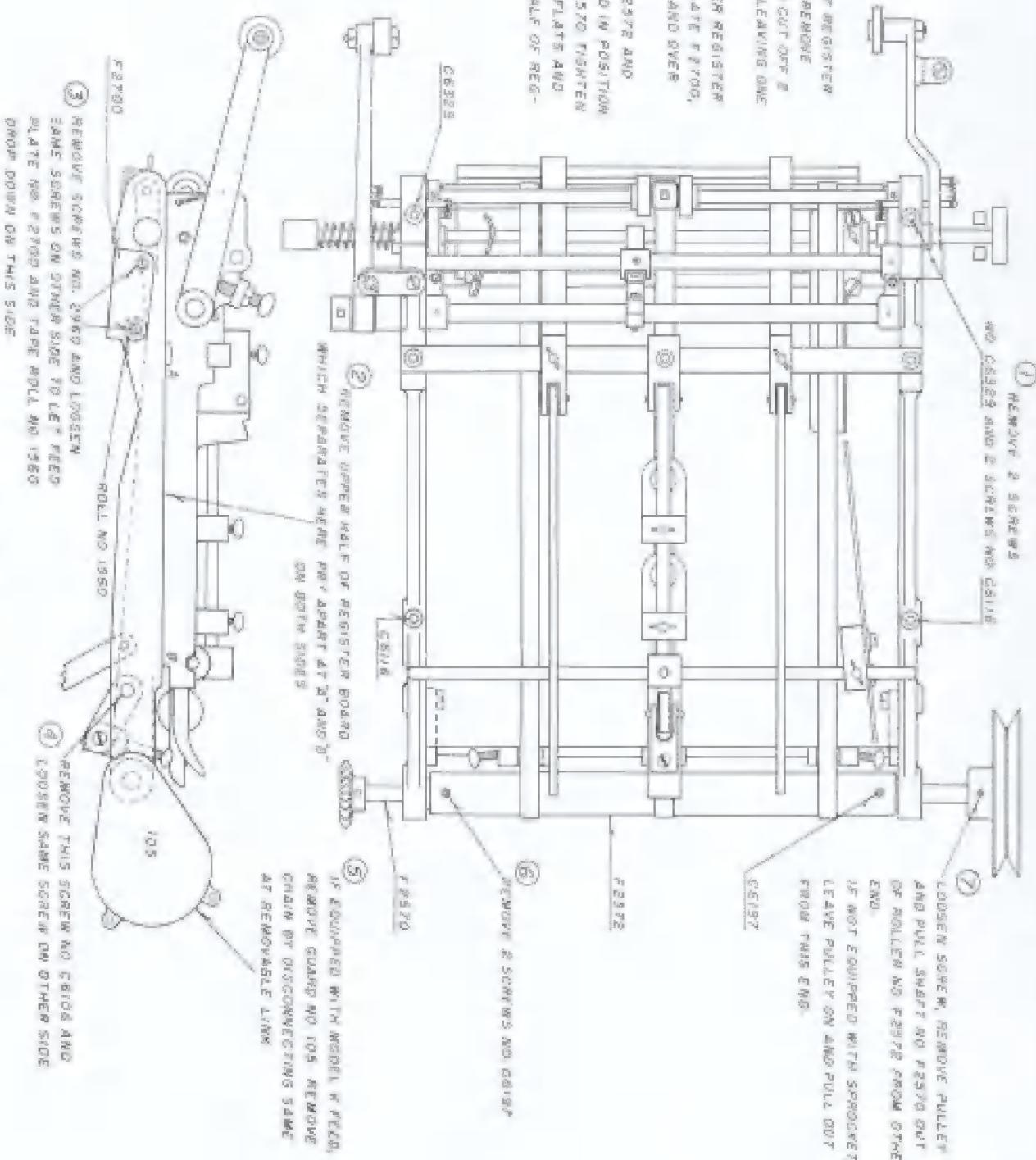
Follow diagram on Page No. 13.

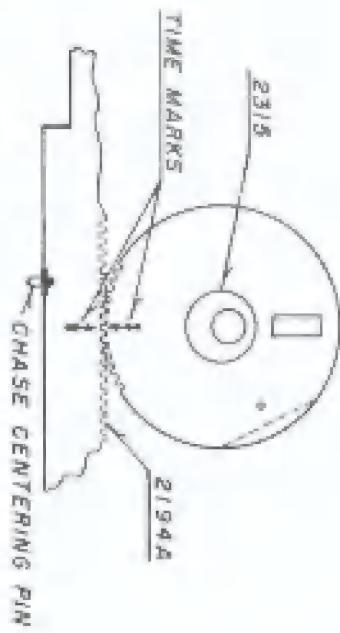
When replacing register board tapes, be sure to use only endless tapes which can be obtained from this company and see that the feed plate No. F2760 does not run on the lower feed roll.

MACHINE SHOWS IRREGULARITY OF OPERATION

This may be due to loose belts, LACK OF OIL, motor out of order or overloaded power line.

This company will be glad to answer any questions regarding troubles or operation of the machine. If writing give machine number and number of any parts that are involved.

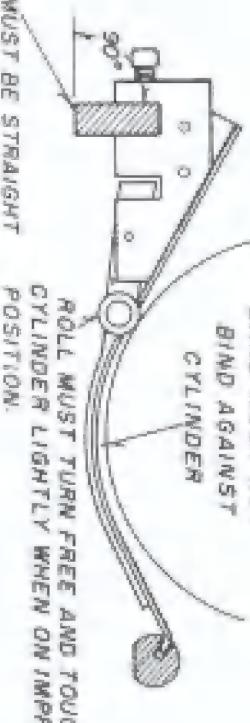




POSITION OF CYLINDER GEAR WITH RACK

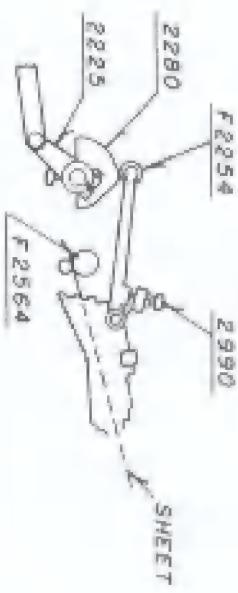
CYLINDER

BAND MUST NOT
BIND AGAINST
CYLINDER



BAR MUST BE STRAIGHT
ALONG ITS FULL LENGTH
AND SQUARE WITH TYPE
BED. (90°)

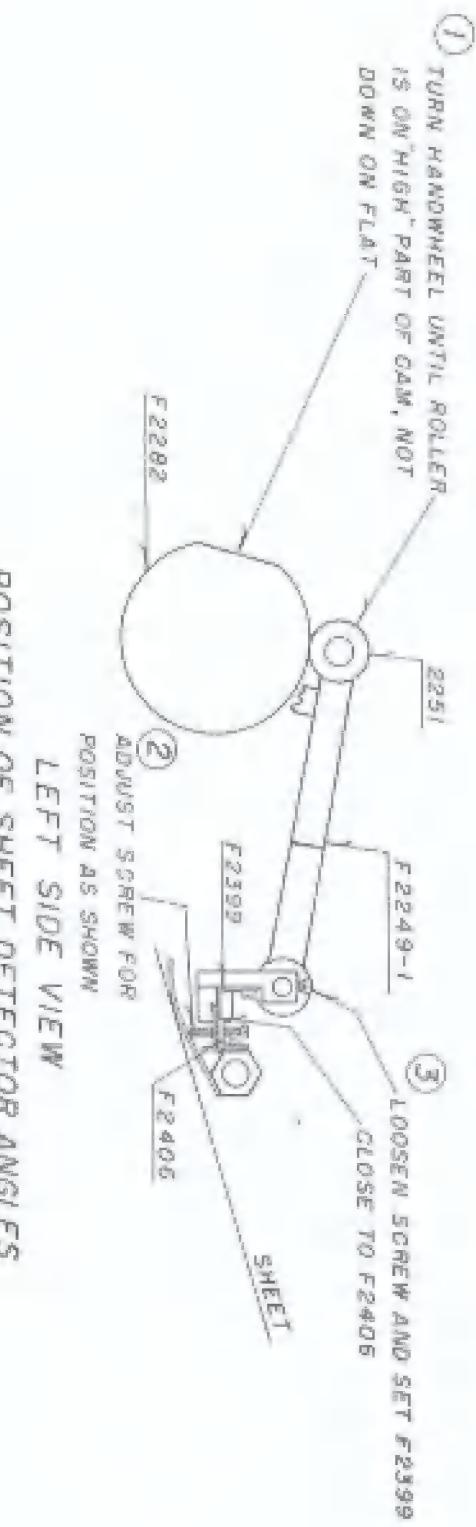
POSITION OF EJECTOR



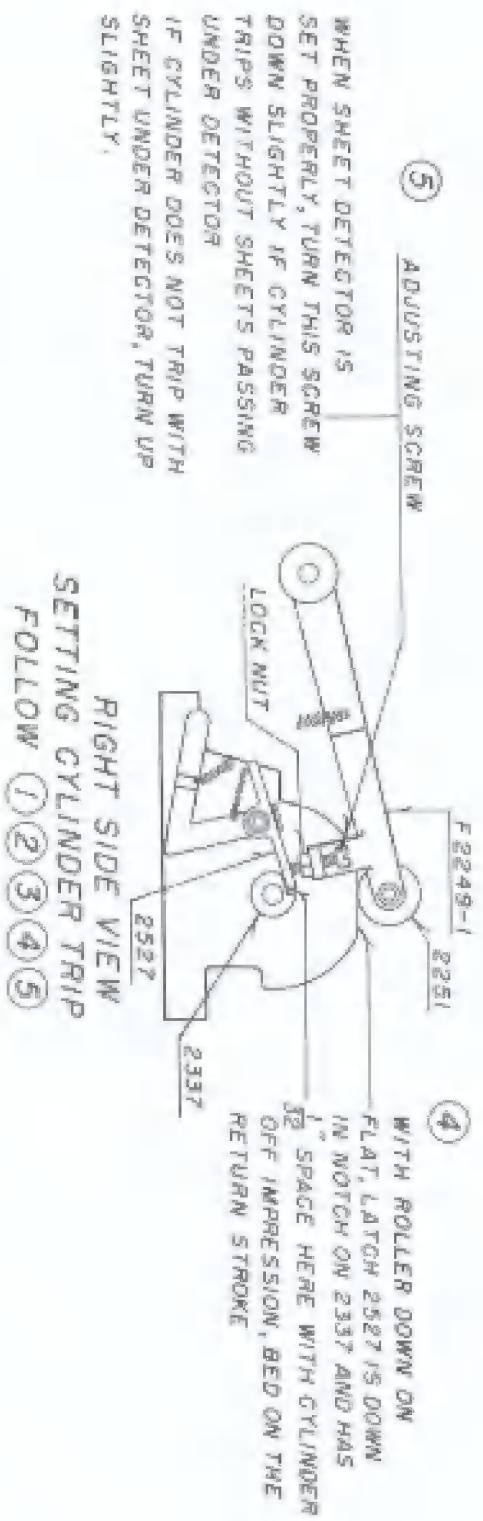
FEED SHEET UNDER SHEET DEFECTOR,
STOP WHEN BED IS AT EXTREME REAR.
SET CAM NO. 2280 WITH HIGH POINT
UNDER THE CAM ROLL.

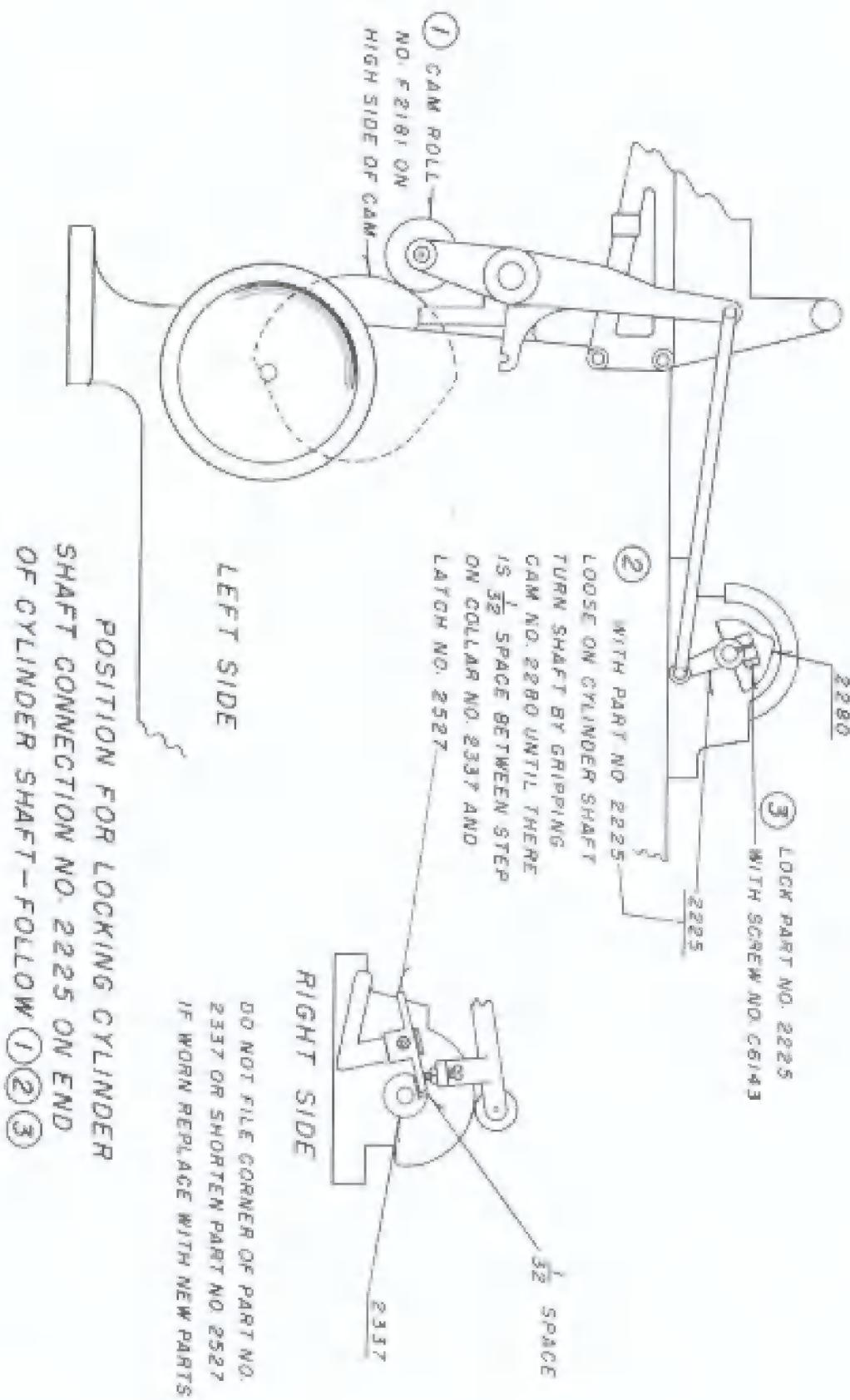
AT THE SAME TIME, SET THE PUSH
ROLLS NO. F 2564 LIGHTLY ON THE
SHEET WITH SCREW NO. 2990.

SETTING CAM NO. 2280 ON
MODELS WHERE CAM IS NOT
KEYED TO SHAFT



POSITION OF SHEET DETECTOR ANGLES





IF CYLINDER IS JAMMED
ON IMPRESSION FORCE LEVER
BACK BY STRIKING HERE
WITH HAMMER AND WOOD
BLOCK. AT SAME TIME
HAVE ASSISTANT TURN
HANDWHEEL BACKWARDS.

① LEVER NO. F2185 TOUCHING STOP

F6308

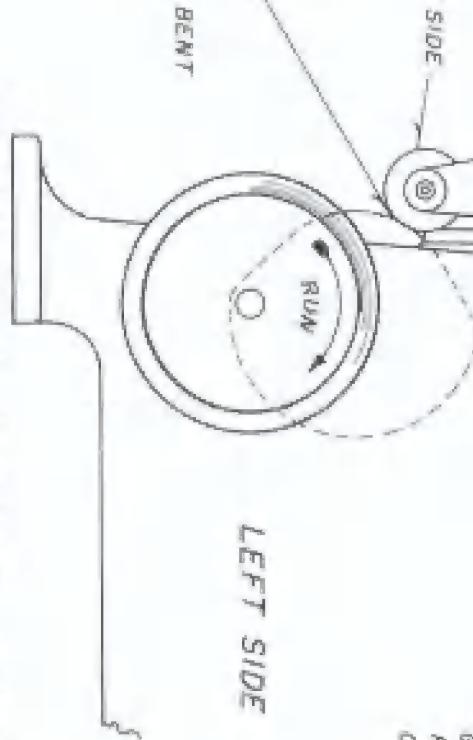
② CAM ROLL NO. F2181 ON LOW SIDE
OF CAM

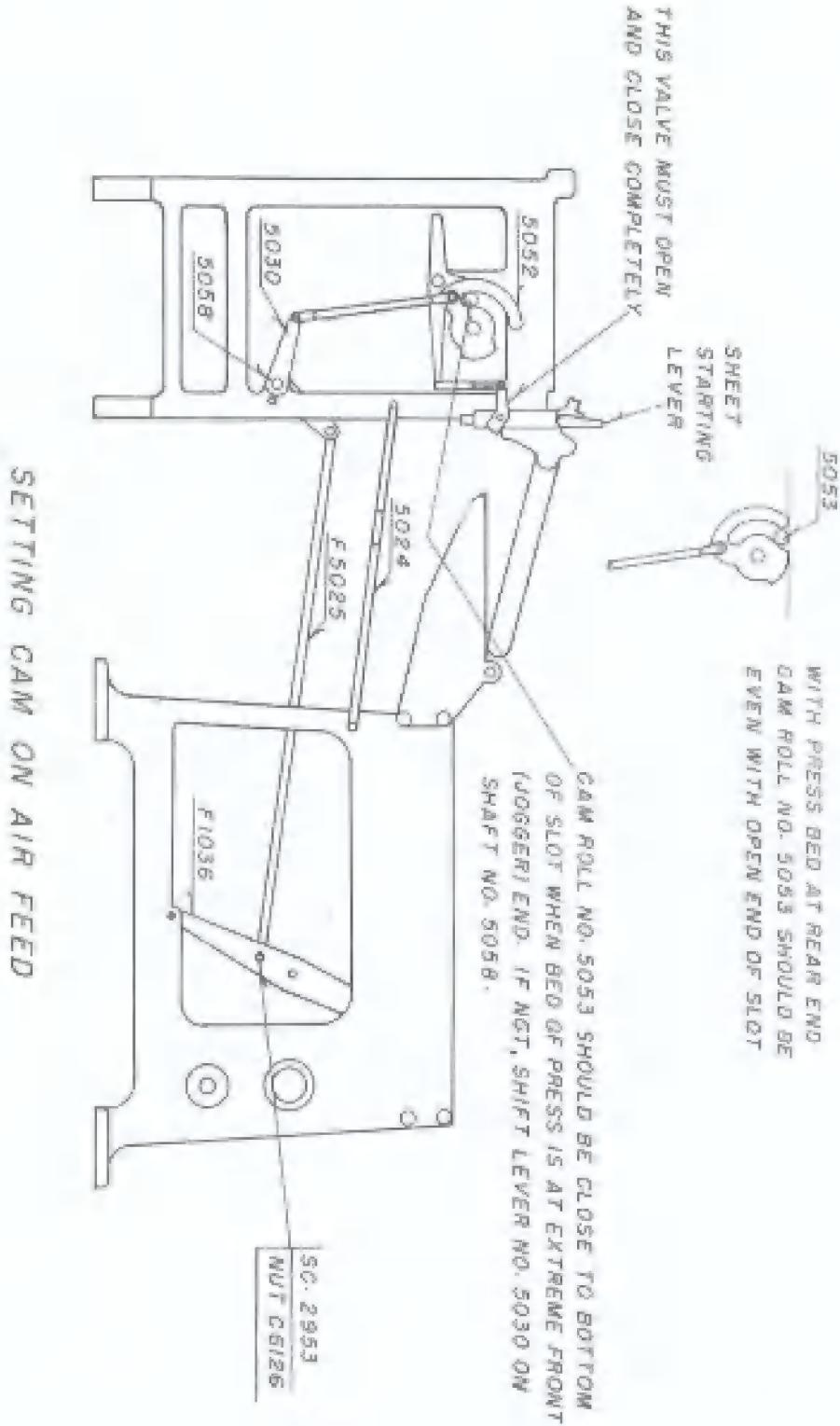
④ WITH LEVER NO. F2185 AND
CAM ROLL NO. F2181 IN POSITION
AS SHOWN, THE CYLINDER SHOULD
BE CONCENTRIC WITH THE CYLINDER
GEAR. IF NOT, SEE INSTRUCTIONS
FOR SETTING CYLINDER SHAFT
CONNECTION NO. 2225.

LEFT SIDE

③ MAXIMUM SPACE $\frac{1}{8}$ "
IF MORE, PINS NO. F6308 ARE BENT

POSITION OF CYLINDER OPERATING LEVER
AND CAM ROLL ON IMPRESSION-FOLLOW ①②③④





PARTS REFERENCE INDEX

In Numerical Order

Ref. No.	Description	Ref. No.	Description
3	Right side frame	46-A	Keel stock guide
4	Left side frame	47	Brake spring
5	Stock guide shaft	48	Clutch spring
6	Upper tie rod	49	Pilot roll spring
7	Lower tie rod	50	Driving pawl spring
8	Clutch latch collar	51	Brake belt hook
10-A	Caliper adjusting lever	52	Pilot roll bearing plate
11	Caliper shaft	53	Lower pilot roll
12	Clutch latch	54	Upper pilot roll shaft
13	Clutch latch and register lever (lock slot)	55	Pilot roll
14	Brake stud	56	Caliper roll
15	Brake valley	57	Upper pilot roll bearing adjustment
16	Feed roll shaft collar	58	Upper pilot roll bearing
17	Front feed roll shaft	62	Pilot roll gear
18	Ratchet wheel	63	Drive rack upper bracket
18-A	Ratchet wheel	64	Drive rack arm
19	Front feed roll shaft gear	65	Drive rack
20	Driving rack gear	66	Drive rack guide arm
21	Front feed roll shaft pawl plate	67	Drive rack lower support bracket
22	Rear feed roll shaft pawl plate	69	Short drive lever
23	Clutch coupling left pin	70	Drive lever link
24	Clutch coupling right pin	72	Long drive lever
25	Clutch coupling collar	T.R.	Stock guide right bracket
26	Key pawl plate retaining collar	73	Stock guide left bracket
27	Drive rack guide collar	74	Drive shaft bearing
28	Rear feed roll shaft	83-A	Right and left tape separator
29	Rear feed roll shaft gear	84	Tape separator rod
30	Clutch shaft lever	89	Register board support collar
31	Clutch shaft	91	Drive rack arm stud assn.
32	Clutch shaft	95	Ball socket
33	Clutch handle	105	Sprue cutter
34	Intermediate gear	112	Center stock support
35	Intermediate gear stud	113	Feed roll shaft gear guard
36	Front roll	114	Driving pawl
37	Feed roll key	115	Driving pawl stud
38	Front stock guide bracket	117	Caliper adjusting lever screw nut
39-A	Right stock guides	118	Rear stock guide screw
40-A	Left stock guide	120	Drive shaft collar
43	Right upper stock support	121	Caliper roll rubber ring
44	Left upper stock support	122	Pilot roll rubber ring (sold assembled only)
45	Front stock guide	123	Feed roll rubber ring

Ref. No.	Description	Ref. No.	Description
125	Steel ball	195	Feed support screw
126	Steel ball	196	Feed support collar
128	Pullout roll chain	197	Bread locating pin
129	Upper pullout roll adjusting nut	198	Rear feed roll shaft assy. with clutch
130	Pullout roll adjusting nut washer	248	Drive lever link bearing
136	Register isolant upper guide	249	Collar
138	Top sheet guide center bracket roller	250	Shaft bearing
139	Top sheet guide center bracket roller clip	1038	Screw
142	Left auxiliary lower stock support	1081	Plate link and jagger lever stud
143	Right auxiliary lower stock support	1147	Packer roll end bearing spring
144	Brake belt	1179	Stop pin
146	Drive track arm stud	1210	Washer
147	Drive track arm stud pin	1239	Screw
148	Clutch shaft and handle assy.	1276	Vibrator arm spool roll
149	Clutch latch and pin assy.	1472-A	Beater chisel
150	Rear stock guide and screw assy.	1472-B	Low chisel
151	Caliper shaft assy.	1560	Small tame roll
152	Caliper roll (exchange)	1795	Spring pin
153	Pullout roll assy.	1869	Lower take roll ball bearing
153	Pullout roll (exchange)	2104	Spring
154	Feeding roll assy.	2138	Fountain blade
155	Pulling roll chain connecting link	2139	Fountain adusting screw
156	Drive track rivet	2141	Fountain roll
157	Clutch handle pin	2142	Fountain roll end bearing
158	Caliper lever screw pin	2143	Fountain ratchet wheel
159	Caliper lever screw pin assy.	2144	Fountain ratchet arm
160	Caliper lever screw and pin assy.	2147	Fountain ratchet pawl stud
168	Pin	2148	Ratchet arm retaining washer
169	Pin	2174	Cylinder drive pin
170	Rear ratchet wheel and gear assy.	2175	Cylinder offset pin
171	Front ratchet wheel and gear assy.	2186	Vibrator sleeve
172	Pin	2187	Front ductor shaft end casting
173	Clutch coupling assy.	2194-A	Rear ductor shaft end casting
175	Front feed roll shaft driving pawl plate assy.	2201	Kart complete
176	Rear feed roll shaft driving pawl plate assy.	2213	Jagger assy.
181	Drive shaft	2221	Vibrator gear
190	Driving pawl spring guard	2224	Rear vibrator arm
191	Front feed roll shaft No. 17 assy., with No. 171 & 175	2225	Front vibrator arm
192	Feed hinge	2226	Vibrator operating arm
193	Feed support	2228	Vibrator arm roll stud
194	Stock guide screw	2230	Cylinder shaft connection
		2238	Cylinder spring tail bracket
		2239	Right front and left rear ductor roll arm
			Side register fork

Ref. No.	Description	Ref. No.	Description
2250	Automatic cam roll stud	2388	Ductor roll trip outside guard
2251	Automatic cam roll	2389	Ductor roll trip inside guard
2252	Push roll cam lever	2390	Ductor roll trip adjustable stud
2256	Push roll lever shaft outside collar	2391	Ductor roll track pawl stud sleeve
2258	Push roll end bearing stud	2392	Sleeves for ductor roll Trip lever
2259	Push roll lever shaft left inside adjusting collar	2393	Lock washer
2260	Push roll lever shaft right inside adjusting collar	2403	Sheet detector lower guard angle
2262		2418	Register board tape guide
2265	Washer	2422	Register board tie rod
2271	Left hand nut for vibrator crank stud	2423	Vibrator operating arm stud
2272	Main bell crank	2427	Trip rod end adjustable cam
2275	Jogger frame	2431	Ductor roll trip end nut
2280	Push roll cam	2432	Ductor roll trip pawl
2283	Jogger operating lever (with roll and stud)	2451	Dowel pin
2284	Jogger operating lever roll	2456	
2285	Jogger operating lever roll stud	2462	Screw
2286	Jogger operating lever bearing stud	2466	Chase locating pin
2287	Jogger operating lever adjusting stud	2473	Ductor roll spring
2292	Form roll bracket tie rod	2474	Cylinder adjusting shim
2293	Intermediate vibrator gear spacing collar	2478-H	Push roll shaft
2294	Vibrator operating shaft	2483	Push roll lever shaft
2313	Ink fountain and jogger drive lever stud	2485	Form roll hook and bracket (rear)
2316	Right cylinder side frame eye, bushing	2485-1	Form roll hook and bracket (front)
2316	Left cylinder side frame bushing	2488	Fountain screw sparing
2325	Jogger L. link and pin assm.	2488-A	Fountain screw sparing
2326	Fountain pawl spacing washer	2493	Screw
2327	Cylinder operating lever top stud	2496	Register board belt for air feed
2328	Washer	2496-A	Register board belt for Model K Feed
2331	Pin	2516	Jogger operating lever
2334-A	Cylinder latch stud	2528	Ductor roll trip pawl track pin
2337	Cylinder latch cam (asssem. only)	2527	Trip latch
2338	Register board lower tape roller	2544	Trip latch spring
2349	Fountain ratchet key pin	2563	Vibrator shaft end stud
2349	Cylinder shaft connection operating lever stud	2579-1	Chase stamp bar
2349	Steel ball	2583-A	Fountain adjusting strip
2349	Roller ejector spring	2587	Tympain clamp hinge pin
2349	Cylinder operating rod	2594	Cotter pin
2381	Rear fountain drive rod	2614	Grpper cam roll
2381-A	Jogger drive rod	2644	Grpper bar spacing washer
2384	Front ductor rod trip rod	2646	Grpper bar end spring
2385	Rear ductor roll trip rod	2660	Grpper
2386	Bottom roll trip vertical cam	2660-1	Center gripper
			Right gripper

Ref. No.	Description	Ref. No.	Description
2660-3	Left gripper	4010	Side support bracket
2662	Tyman reel wrench pin	4012	Envelope end stop support
2797	Fountain drive rear rod locking latch	4107	Tape roll bearing
2798	Fountain drive front rod locking latch	4108	Tape roll bearing
2799	Fountain drive rod locking latch hinge stud	4109	Tape roll washer
2800	Fountain drive rod locking latch snap stud	4110	Worm shaft bearing bracket
2823	Key	4111	Worm shaft
2848	Autostop trigger shaft feeler block	4112	Worm thrust washer
2849	Autostop trigger shaft collar	4113	Worm gear guard
2850	Autostop trigger shaft collar lock lever	4116	Worm shaft pulley
2851-A	Autostop trigger shaft latch	4117	Drive pulley
2852	Count of	4118	End stop
2869	Ejector roll hinge	4119	Side stop support
2932	Counter lever	4121	Side stop
2938	Counter lever spring	4122	Drive belt
2939	Coupler lever link	4126	Front tape roll
2940	Screw	4127	Rear tape roll
2951	Cotter pin	4128	Left side guide
2962	Screw	4129	Tie rod
2963	Screw	4130	Torque support
2967	Screw	4151	Tape separator shaft (not sold separately)
2971	Screw	4152	Tape separator pin
2972	Nut	4153	Toe line support dowel pin
2973	Lock washer	C1026	Main gear shaft
2974	Screw	C1027	Main gear shaft nut
2976	Thumb screw	C1029	Connecting link stud
2977	Tyman sheet	C1040	H link short pin
2978	Taper pin	C1058	Spring pin
2980	Screw	C1058-A	Spring pin
2982	Washer	C1136	Screw
2983	Wrench	C1158	Dowel pin
2984	Wrench	C1195	Stop pin
2985	Wrench	C1242	Idle gear
2986	Rubber blanket .022" thick	C1290	Washer
2986-A	Rubber blanket .012" thick	C1371	Fountain drive lever spacer
2990	Thumbscrew	C1517	Jogger T link
2991	Screw	C1518	Jogger L link
4007	Incline stop	C1524	Jogger rear top board
1008	Tape support board	C1525	Jogger left top board
1009	Tape	C1526	Jogger right top board

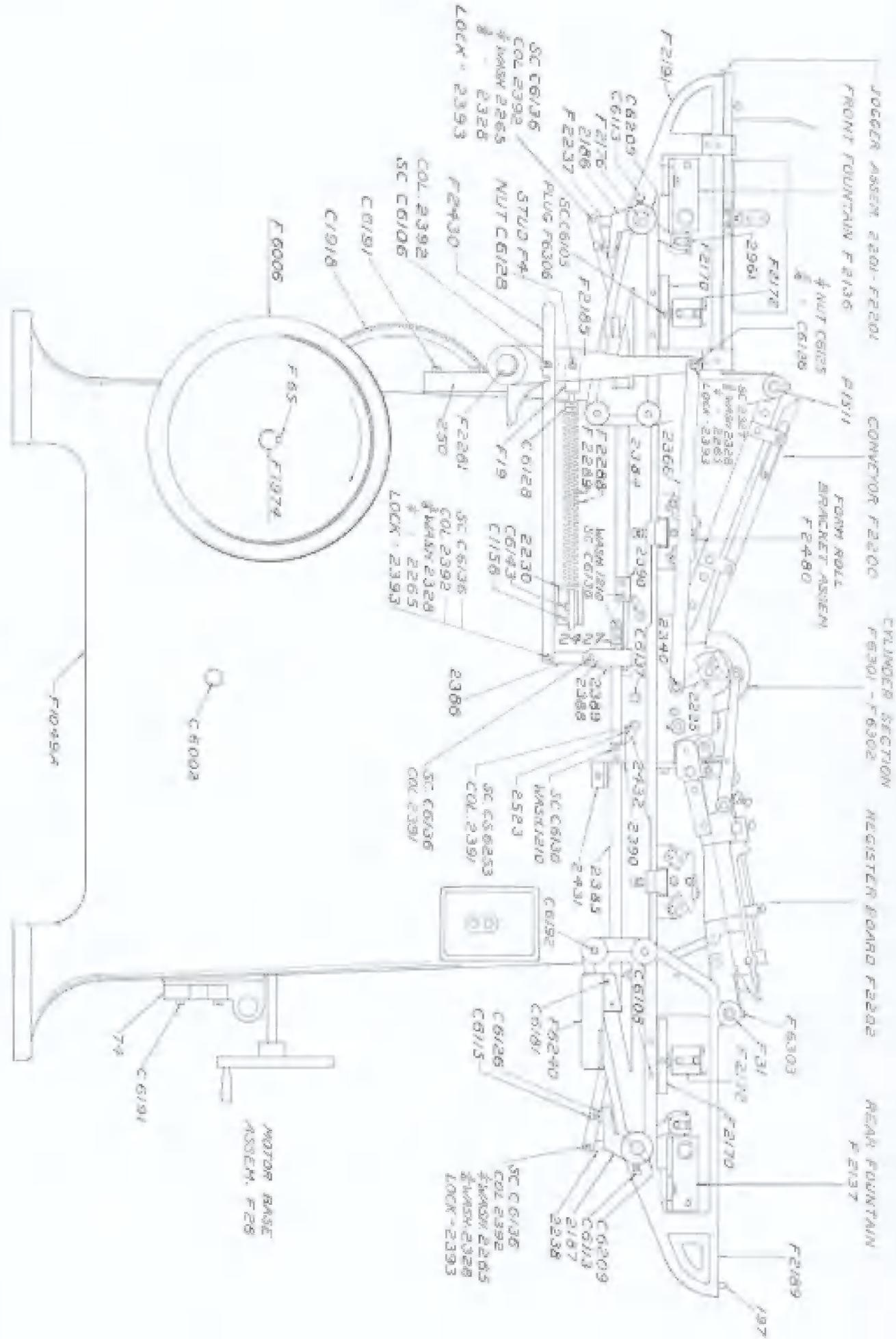
Ref. No.	Description	Ref. No.	Description
C1527	Jogger left track	C6009	Bed grill
C1528	Jogger right track	C6011	Main gear shaft bearing
C1529	Jogger center track	C6018-A	Front right bed slide
C1530	Jogger track guide	C6018-B	Rear right bed slide
C1531	Jogger track guide spacing washer	C6090	Screw
C1534	Jogger T & L link track guide	C6093	Screw
C1536	Jogger L link stud	C6095	Screw
C1543	Jogger wing board	C6098	Screw
C1544	Jogger wing board bracket	C6099	Screw
C1545	Jogger end stop	C6100	Thumb screw
C1546	Jogger wing clamp	C6101	Screw
C1551	Jogger spring	C6102	Screw
C1560-A	Lower tape yell	C6104	Screw
C1565	Delivery conveyor tape	C6105	Screw
C1576	Conveyor upper drive pulley	C6106	Screw
C1616	Belt hook	C6107	Screw
C1625	Delivery conveyor belt	C6108	Screw
C1626	Farm roll bracket clamp	C6110	Screw
C1683	Jogger T & L link spacing washer	C6113	Screw
C1791	Conveyor tie rod	C6115	Screw
C1869-A	Lower tape roll bearing	C6116	Screw
C1918	Main gear	C6118	Screw
C1951	Farm roll bracket clamp pin	C6121	Washer
C1953	Farm roll bracket slide rod	C6122	Nut
C2083	Farm roll bracket slide rod bracket	C6123	Nut
C2130	Farm roll bracket clamp screw	C6124	Nut
C2253	Shove roll stud	C6125	Nut
C2300	Conveyor top sheet guide rod upper bracket	C6126	Nut
C2300-A	Conveyor top sheet guide rod lower bracket	C6127	Nut
C2301	Conveyor side arm and top sheet guide rod	C6128	Nut
C2303	Conveyor top sheet guide lock	C6130	Screw
C2349	Steel ball	C6131	Screw
C2409	Top sheet ball rider bracket	C6133	Wing nut
C2410	Shove roll arm	C6136	Screw
C2421	Tape separator shaft link	C6137	Oil cup
C2435	Shove roll	C6141	Taper pin
C2458	Knurled nut	C6143	Screw
C2512	Tape separator shaft pin	C6144	Screw
C2513	Top sheet ball rider ass'mt.	C6145	Oil cup
C2669	Tape separator and pins ass'mt.	C6151	Connecting link bushing
C6001	Connecting link stud nut	C6152	Oil cup
C6002	Vertical lever bottom pin	C6154	Main gear key
C6007	Lower tape roll bearing plate	C6155	Screw

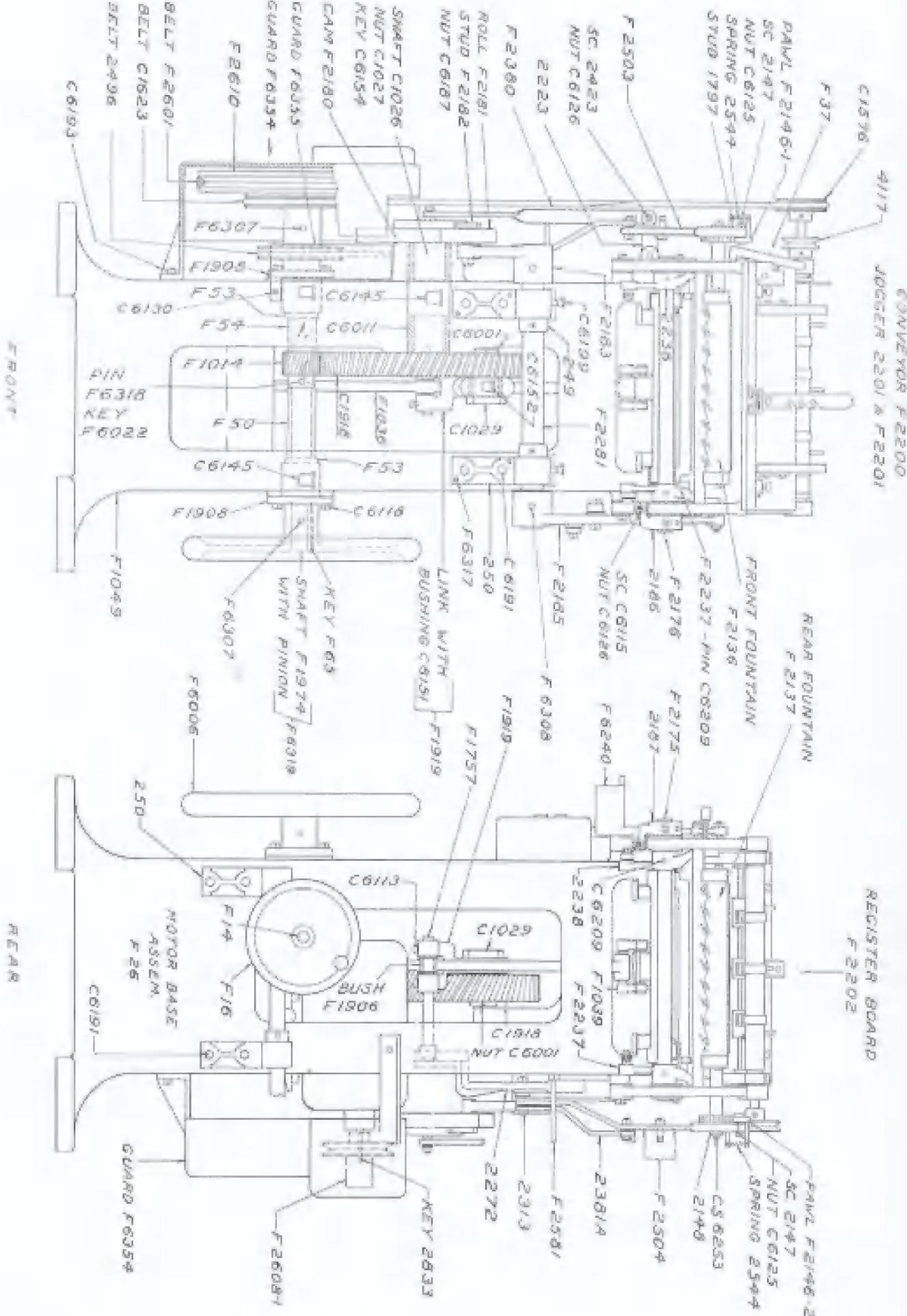
Ref. No.	Description
C6157	Sheave roll assembly
C6158	Tape separator shaft
C6160	Screw
C6161	Screw
C6162	Screw
C6163	Screw
C6165	Screw
C6170	Lock washer
C6173	Screw
C6175	Wrench
C6181	Screw
C6184	Screw
C6185	Screw
C6186	Screw
C6187	Nut
C6188	Screw
C6189	Screw
C6190	Screw
C6191	Screw
C6192	Screw
C6193	Screw
C6197	Screw
C6198	Screw
C6199	Oil cup
C6200	Screw
C6201	Thumb screw
C6202	Rivet
C6203	Screw
C6205	Thumb screw
C6207	Taper pin
C6208	Screw
C6209	Taper pin
C6210	Taper pin
C6211	Screw
C6212	Wrench
C6213	Wrench
C6221	Screw
C6225	Thumb screw
C6228	Wrench
C6237	Washer
C66243	Screw
C66248	Screw
C66250	Lock washer
F4	Screw
F5	Cylinder operating spring rod connecting stud
F6	Lower gripper arm and pin
F7	Automatic stop trigger plate
F8	Automatic stop trigger latch pin
F9	Form roll slide rod front guard
F10	Form roll slide rod rear short guard
F11	Form roll slide rod rear long guard
F12	Upper motor base
F13	Lower motor base
F14	Motor adjusting screw
F15	Motor adjusting screw collar
F16	Rear fountain dust guard
F18	Push roll arm key
F19	Cylinder operating rod spring connection
F23	Grasper crank spring assm.
F25	Motor base saddle rod
F26	Adjustable motor base assm.
F29	Fountain roll end bearing bushing
F30	Lower grasper arm center pin
F31	Feed bracket bushing
F32	Oil cup
F33	Cylinder bushing
F34	Oil cup
F35	Tyman clamp spacing collar
F36	Oil cup
F37	Jagger clamp assm.
F38	Jagger clamp
F39	Jagger clamp bracket
F40	Jagger clamp pin
F41	Auxiliary side guide right bracket
F42	Ball socket rod hinge bracket
F43	Top sheet lower guides
F45	Bell socket rod hinge
F46	Auxiliary left side guide
F47	Top sheet upper guide
F48	Auxiliary left guide bracket
F49	Angle roll bearing
F50	Main shaft left side spacing collar
F51	Register bend support
F52	Angle roll vibrator

Ref. No.	Description
F53	Main shaft thrust washer
F54	Main shaft right slaking collar
F55	Top sheet guide center bracket
F57	Fountain pawl pin
F58	Oil cup clip
F59	Lower pullout roll sprocket
F60	Register board tape roll sprocket
F61	Oil cup
F62	Auxiliary center ball tracket (lam)
F63	H link cover
F64	Main shaft key
F65	Vibrator shaft center bearing
F67	Auxiliary center ball bracket
F106-1	Register board pulley (machines No. T1000 and up)
F140	Auxiliary top sheet guide
F141	Pinion
F1039	Vertical lever
F1040	H link pin
F1649	Main frame
F1242	Feed roll idle gear
F1420	Chase bottom plate
F1511	Logger bracket bushing
F1522	Base board for envelope extension delivery
F1709	Lower foot roll left bearing
F1710	Lower feed roll right bearing
F1757	Vertical lever centre pin assm.
F1906	Spring stud
F1908	Vertical lever bushing
F1919	Drive shaft
F1974	Front fountain assm. with ratchet
F2136	Rear fountain assm. with ratchet
F2137	Fountain ratchet pawl
F2146-1	Front fountain pawl assm.
F2146-2	Rear fountain pawl assm.
F2149	Fountain back
F2159	Front link plate
F2161	Rear link plate
F2167	Form roll right bracket
F2168	Form roll left bracket
F2169	Left front and right rear form roll bearing
F2170	Right front and left rear form roll bearing
F2172	Cylinder gear (solid assm. only)
F2173	Angle roll bearing assm.
F2176	Angle and doctor roll core
F2177	Angle and doctor roll complete
F2178	Form roll core
F2179	Form roll complete
F2175	Front doctor shaft
F2180	Rear doctor shaft
F2181	Cylinder operating cam roll
F2182	Cylinder operating cam roll sluit
F2183	Short cylinder operating lever
F2185	Long cylinder operating lever
F2188	Right feed table bracket
F2189	Left feed table bracket
F2190	Right delivery table bracket
F2191	Left delivery table bracket
F2192	Impression cylinder with tyrian clamp and reel
F2192-A	Impression cylinder assm. with grippers
F2192-A1	Impression cylinder with grippers, cams and delivery bracket
F2192-2	Metal cylinder cms
F2195	Type bed
F2200	Delivery conveyor assm.
F2201	Base frame assm. for envelope extension delivery
F2202	Register board assm.
F2205	Vibrator roll complete
F2235	Right cylinder side frame
F2236	Lat ^q cylinder side frame
F2237	Left front and right rear doctor arm
F2249-1	Automatic latch lever (see F2515-1)
F2253	Push roll arm roller
F2254	Push roll arm roller
F2255	Push roll lever shaft adjuster
F2257	Left push roll end bearing
F2262	Collar
F2264	Vibrator cams stud (left hand)
F2265	Cylinder shaft (solid assm. only) See F2653

Ref. No.	Description	Ref. No.	Description
F2275	Base frame for envelope extension delivery	F2480-1	Form roll rear bracket assm.
F2276	Ductor cam roll stud	F2481	Side register slide rod
F2277	Ductor cam roll stud	F2482-1	Sheet deflector shaft
F2279-1	Feed conveyor pulley	F2496	Register board belt (previous to machine No. F100)
F2280	Push roll and gripper release cam	F2503	Front fountain pawl lever and studs assm.
F2281	Cylinder operating lever shaft	F2504	Rear fountain pawl lever and studs assm.
F2282	Automatic trip cam (not sold separately)	F2505	Front ductor arms and shaft assm.
F2288	Cylinder operating spring	F2506	Front ductor arms and shaft assm.
F2289	Cylinder operating spring rod	F2515-1	Automatic latch lever assm.
F2291-R	Vibrator clip (right front and left rear)	F2518	Push roll lever shaft and castings assm.
F2291-L	Vibrator clip (left front and right rear)	F2519	Automatic latch lever spring
F2299	Delivery conveyor side arm	F2542-A	Upper feed roll assm.
F2301	Autostop shaft bracket tie rod	F2542-1	Upper feed roll for cartons (give thickness of carrot)
F2302	Conveyor top sheet guide	F2543-A	Upper feed roll assm.
F2319	Right side register casting	F2546	Lower feed roll bearing
F2320	Left side register casting	F2547	Register board right side
F2323	Feed roll idle gear shaft for electors	F2548	Register board left side
F2323-R	Feed roll idle gear shaft for grippers	F2552	Register board right side (assm., with studs)
F2332	Upper feed roll spring seat	F2553	Register board left side (assm., with studs)
F2346	Register board plate	F2558	Right ejector
F2347	Register board tape roll	F2559	Left ejector
F2359	Right ejector band	F2561	Push roll
F2360	Left ejector band	F2565	Ejector bar
F2373-1	Right side register	F2569	Register board tape
F2378	Push roll bearing	F2570	Upper tape roll shaft
F2380	Vibrator shaft drive link	F2572	Hollow tape roll
F2382	Front fountain rod	F2581	Fountain rod rest pin
F2382-A	Front fountain rod assm.	F2584	Tympan-stamp
F2398-1	Sheet detector body assm.	F2585	Tympan reel
F2399	Sheet detector plain angle	F2586	Tympan reel
F2402	Sheet detector	F2593	Tympan reel lock
F2406	Sheet detector threaded angle		Cylinder gear and cam bushing (not sold separately)
F2412	Sub-ejector		
F2424	Moving guide rod end plate	F2601	Main drive belt
F2425	Lower rest for register board	F2608-1	Adjustable speed pulley
F2430	Ductor full trip operating rod	F2610	Main drive pulley
F2434	Side register slide rod spring	F2615	Gripper bar
F2450	Upper feed roll spring	F2619-1	Star wheel
F2460	Right push roll and bearing	F2620	Pain delivery wheel
F2471	Cylinder gear, cam and bushing assm.	F2624	Roller ejector hinge pin
F2474	Cylinder adjusting shim	F2626	Right roller ejector hinge assm.
F2479	Push roll lever spring	F2627	Left roller ejector hinge assm.
F2480	Form roll front bracket assm.		

Ref. No.	Description	Ref. No.	Description
F2635	Delivery roll end bracket	F6311	Top sheet inner auxiliary guide
F2634	Delivery roll bracket cover	F6312	Register starting guide
F2636-A	Delivery roll shaft assm.	F6313	Center ball socket rod
F2640	Trip latch lever	F6314	Ball socket tool hinge pin
F2653	Lower gripper arm	F6315	Ball socket tool hinge bracket assm.
F2653-A	Lower gripper arm assm.	F6316	Top sheet guide rest (4)
F2654	Top gripper arm	F6317	Dowel pin
F2663	Delivery roll bracket assm. with plain wheel	F6318	Taper pin
F2663-A	Delivery roll bracket assm. with star wheel	F6319	Main shaft and pinion assm.
F2664	Gripper crank	F6320	Screw
F2668-1	Delivery tape roll shaft	F6321	Screw
F2670	Upper tape roll and shaft assm.	F6322	Narrow stock support
F2672	Cylinder shaft assm.	F6323	Auxiliary center ball bracket assm.
F2700	Register board feed plate	F6324	Dowel pins
F2784-1	Top sheet guide cross bar	F6325	Top sheet guide assm.
F2834	Automatic switch bracket	F6326	Thumb screw
F2837	Automatic stop trigger	F6327	Auxiliary belt side guide assm.
F2839	Autostop switch	—F6328	Ball socket rod and flange bracket assm. with balls, roller and center bracket
F2843	Autostop trigger shaft right bracket assm.	F6329	Screw
F2845-A	Autostop trigger shaft left bracket	F6330	Screw
F2846	Autostop trigger shaft left bracket assm.	F6331	Sheet detector spring
F2846-A	Automatic stop trigger shaft left bracket assm.	F6332	Lock washer
F2847	Automatic stop trigger shaft	F6333	Feed weight
F2909	Complete automatic stop	F6334	Screw
F2930	Left ejector body	F6335	Nut
F2931	Right ejector body	F6336	Screw
F2937	Counter bracket	F6337	Screw
F5025	Feed drive rod	F6338	Screw driver
F6006	Hand wheel	F6339	Screw driver
F6008	Conveyor stop	F6340	Screw driver
F6022	Pinion key	F6341	Chase clamp quoins
F6168	Ball bearing ejector roll and stud	F6342	Quoin key
F6240	Tool tray	F6343	Quick change quoins (give length required)
F6240	Logger hinge	F6344	Sectional form roll (give length required)
F6301	Cylinder section (for ejectors)	F6345	Oil can
F6302	Cylinder section (for grippers)	F6346	Wrench
F6303	Oil cup	F6347	1-lb. can Multiplex black ink
F6304	Oil cup	F6348	Bed slide shim
F6305	Gib head key	F6349	Ink plate shim
F6306	Adjusting ring	F6350	Oil cup
F6307	Taper pin	F6351	Gear for delivery roll shaft
F6308	Screw	F6352	Oil wick
F6309	Dowel pin	F6354	Main drive belt guard
F6310		F6355	Oil drip belt guard

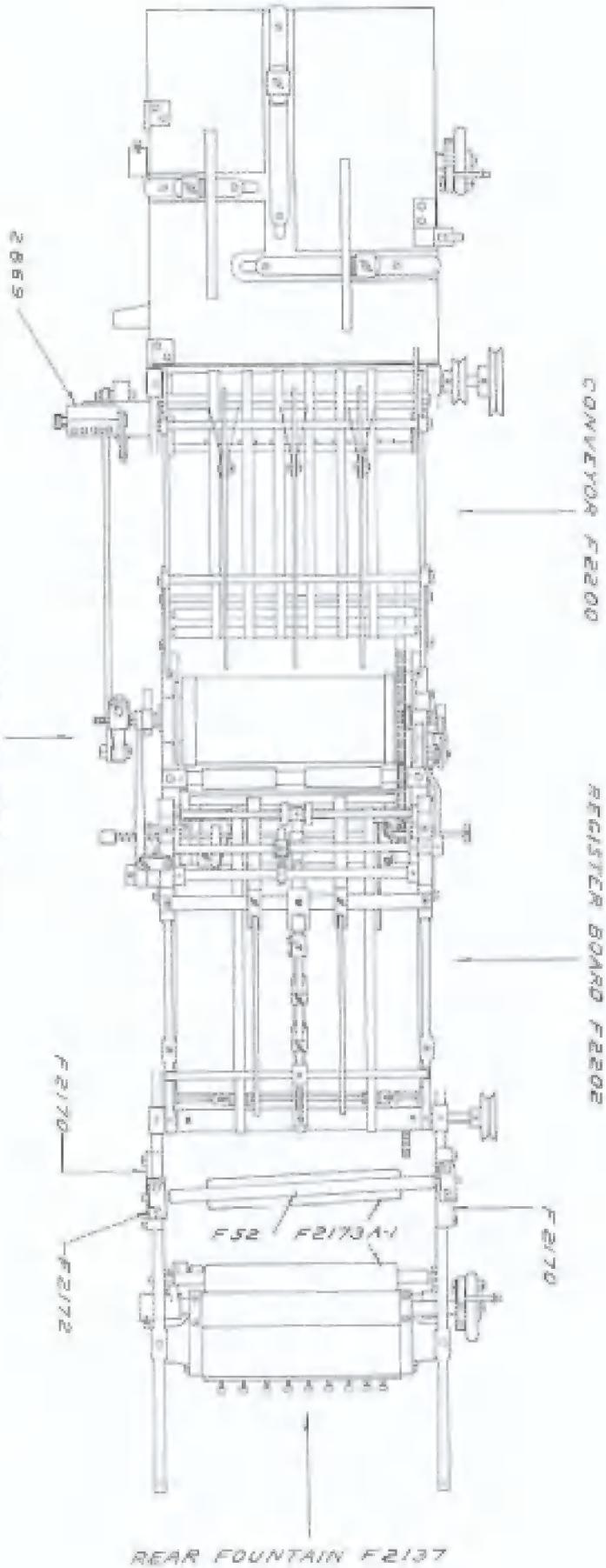


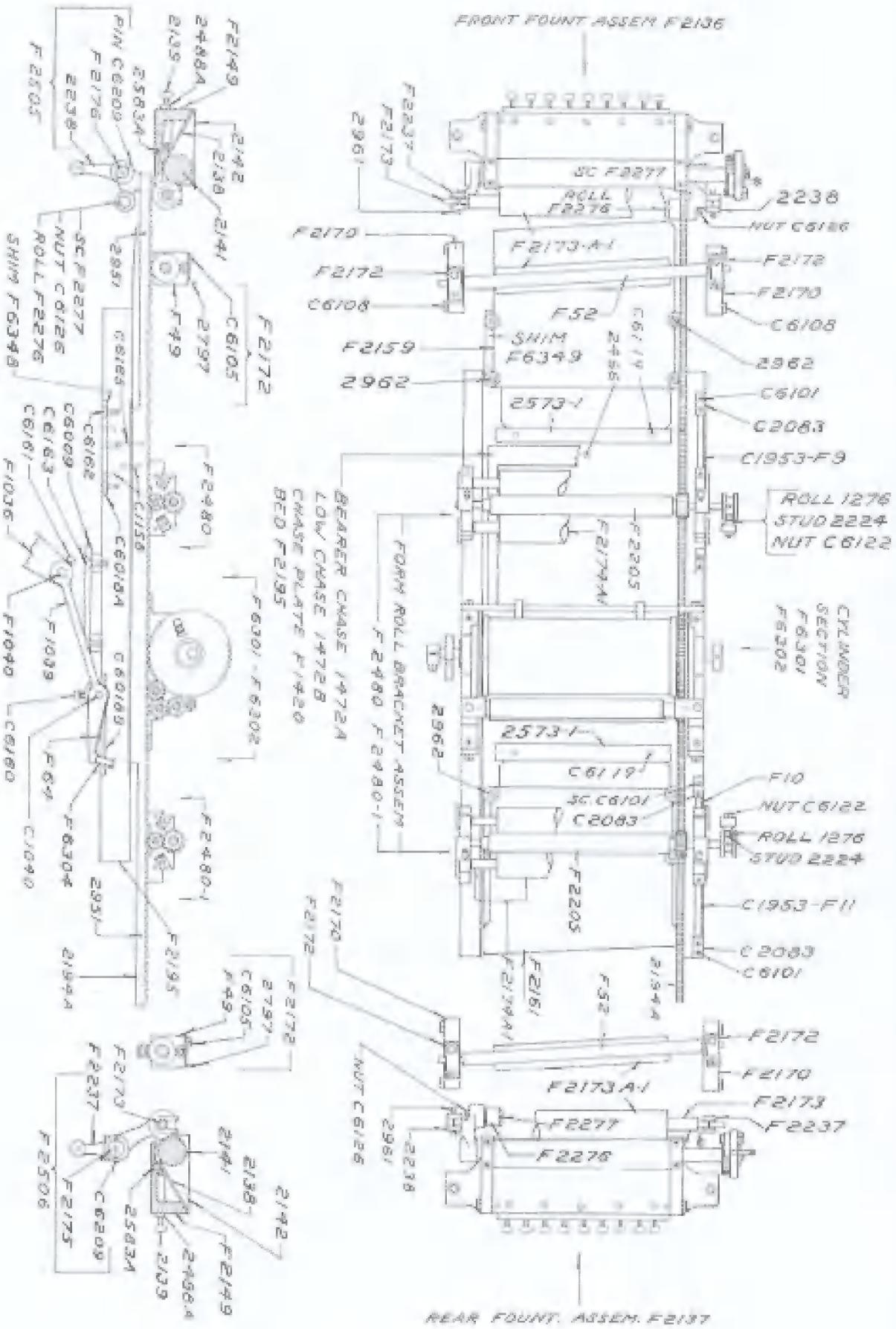


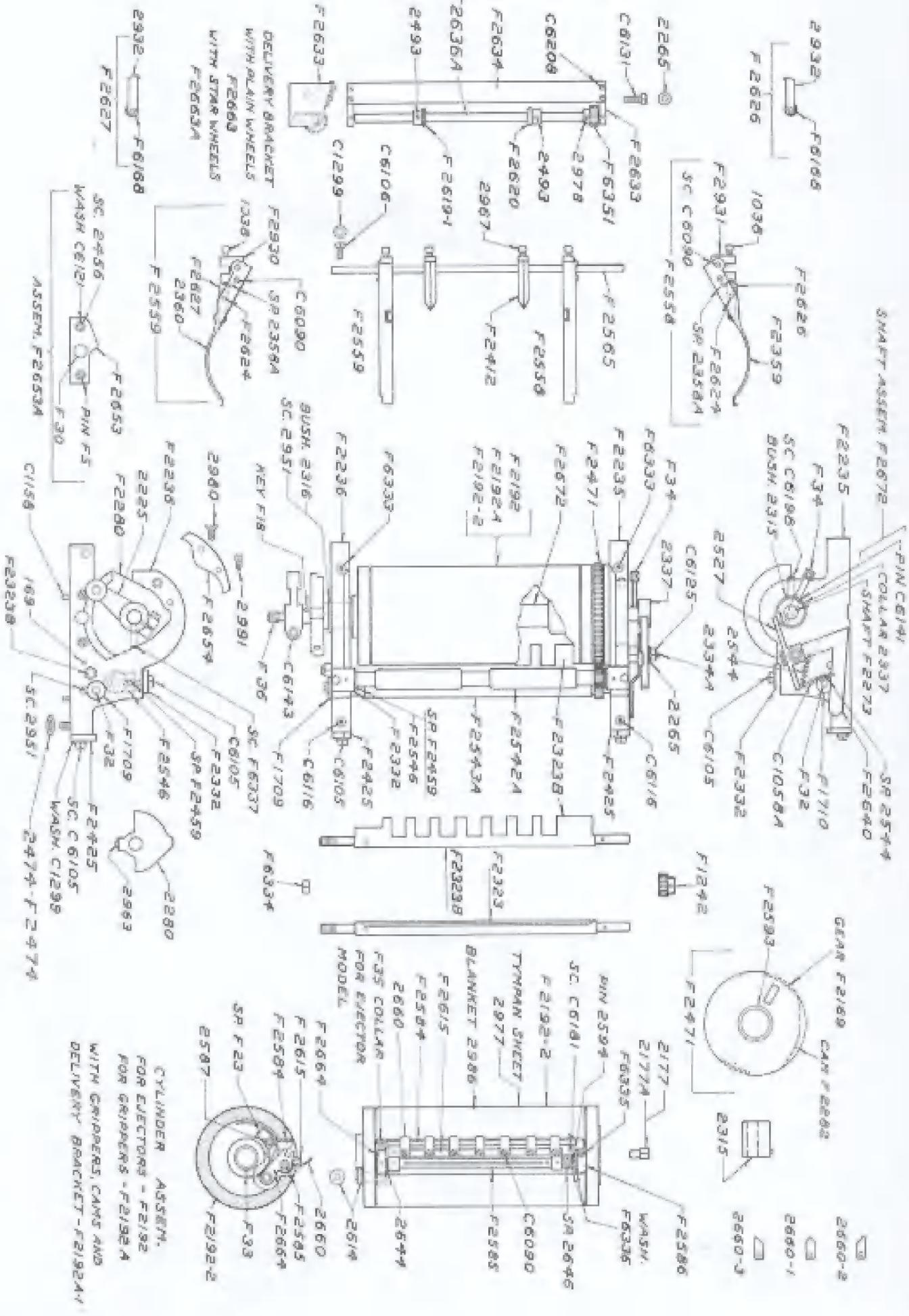
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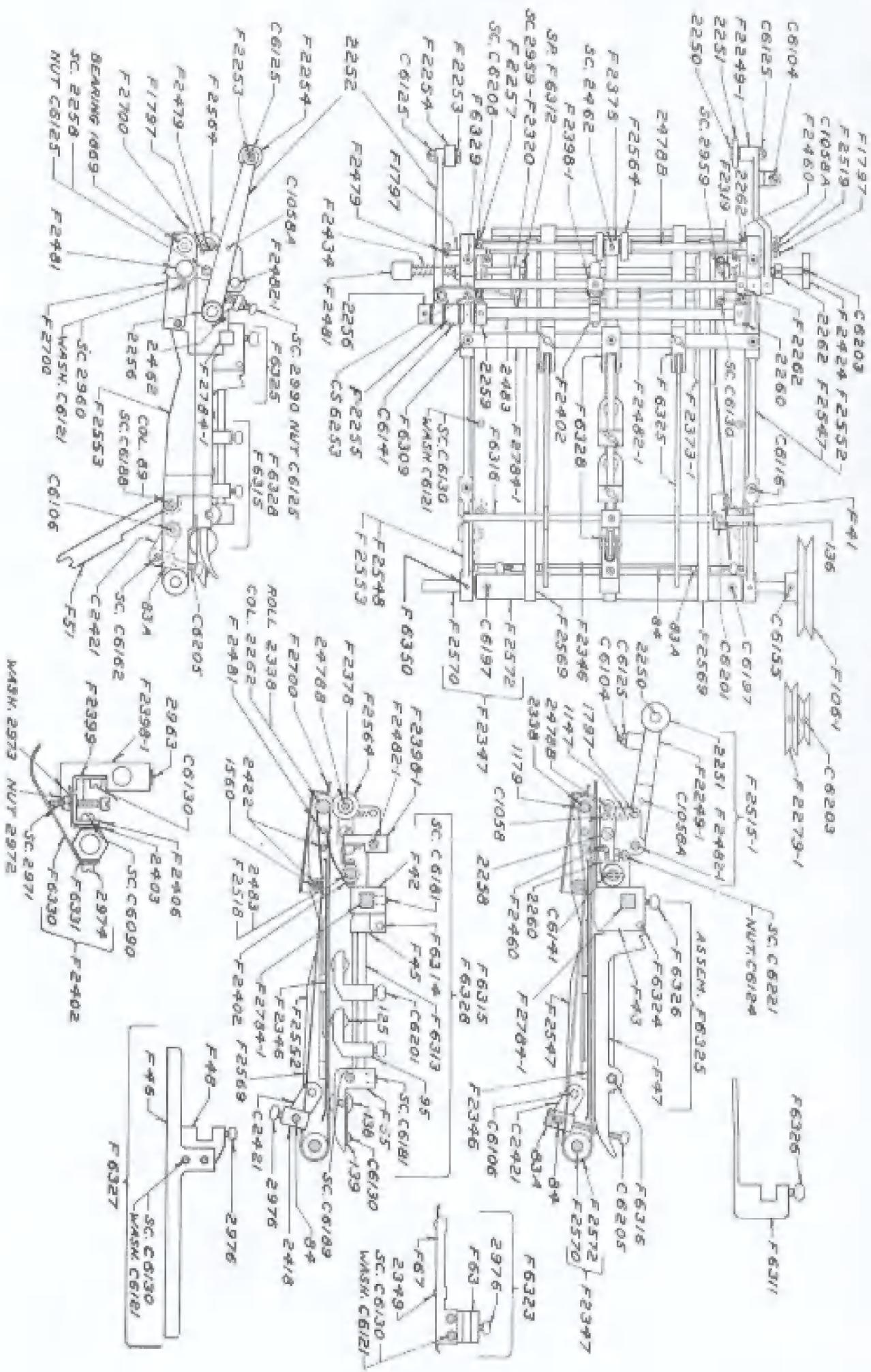
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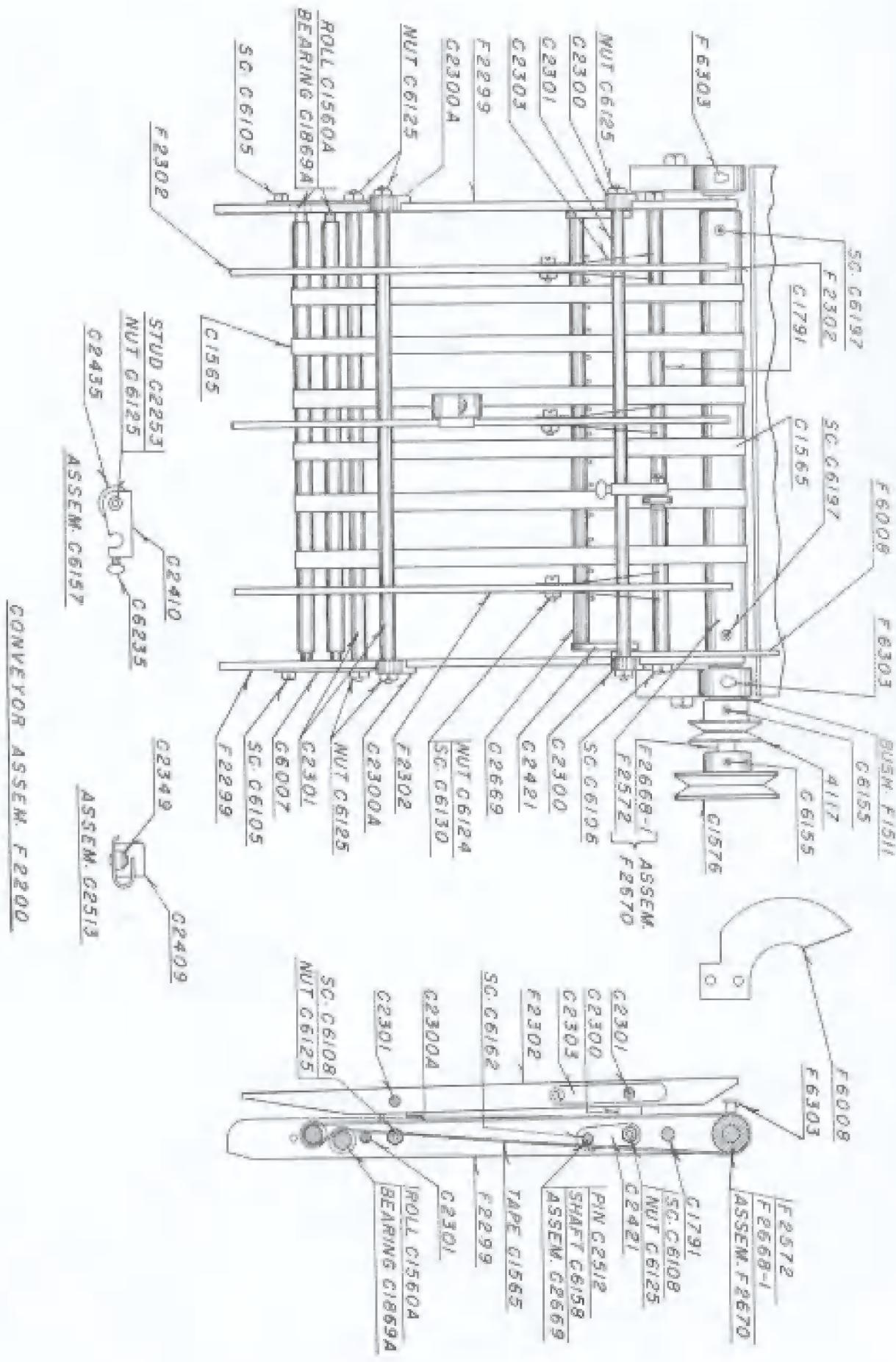
CYLINDER SECTION
F6301 - F5302

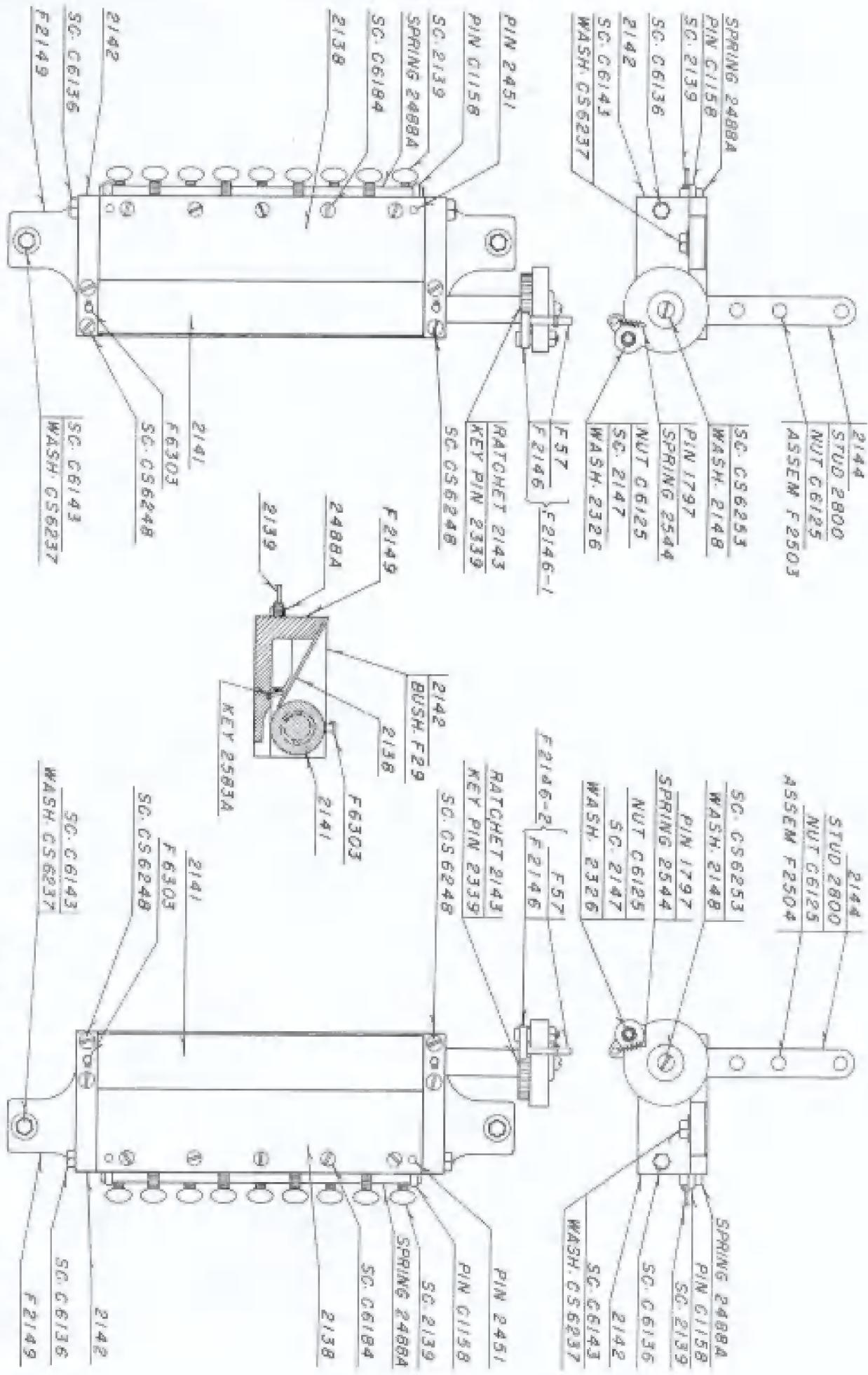


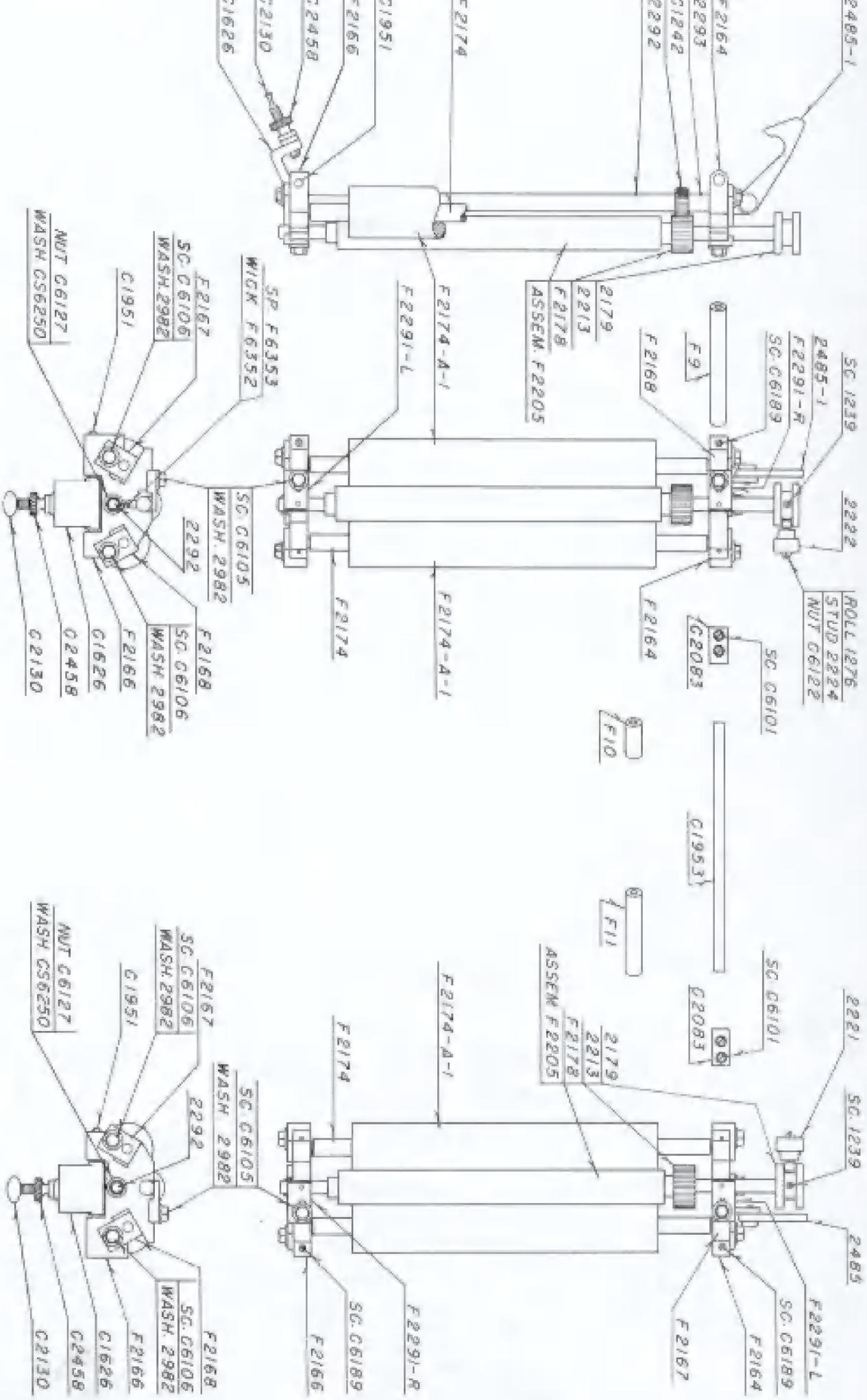


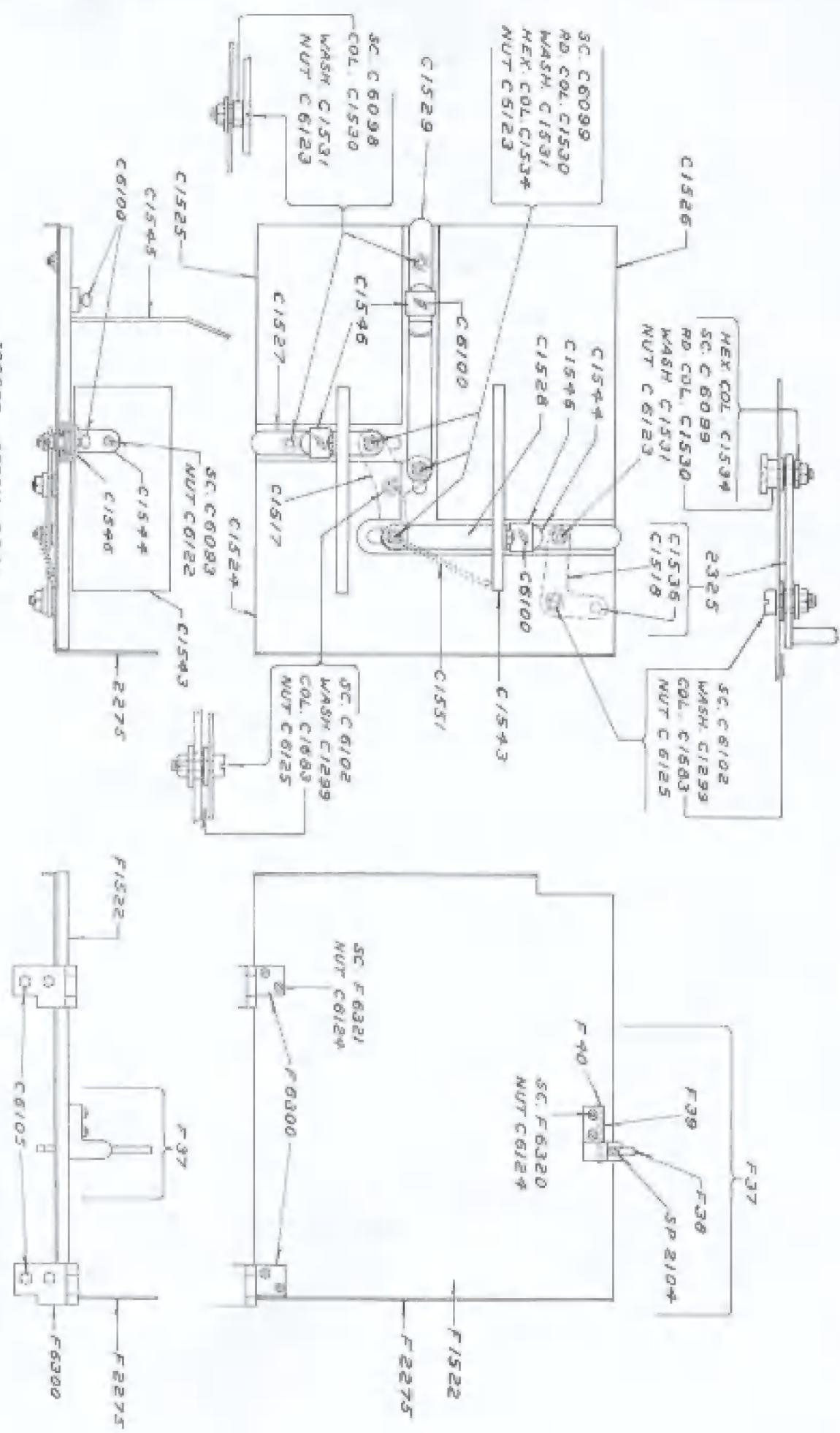


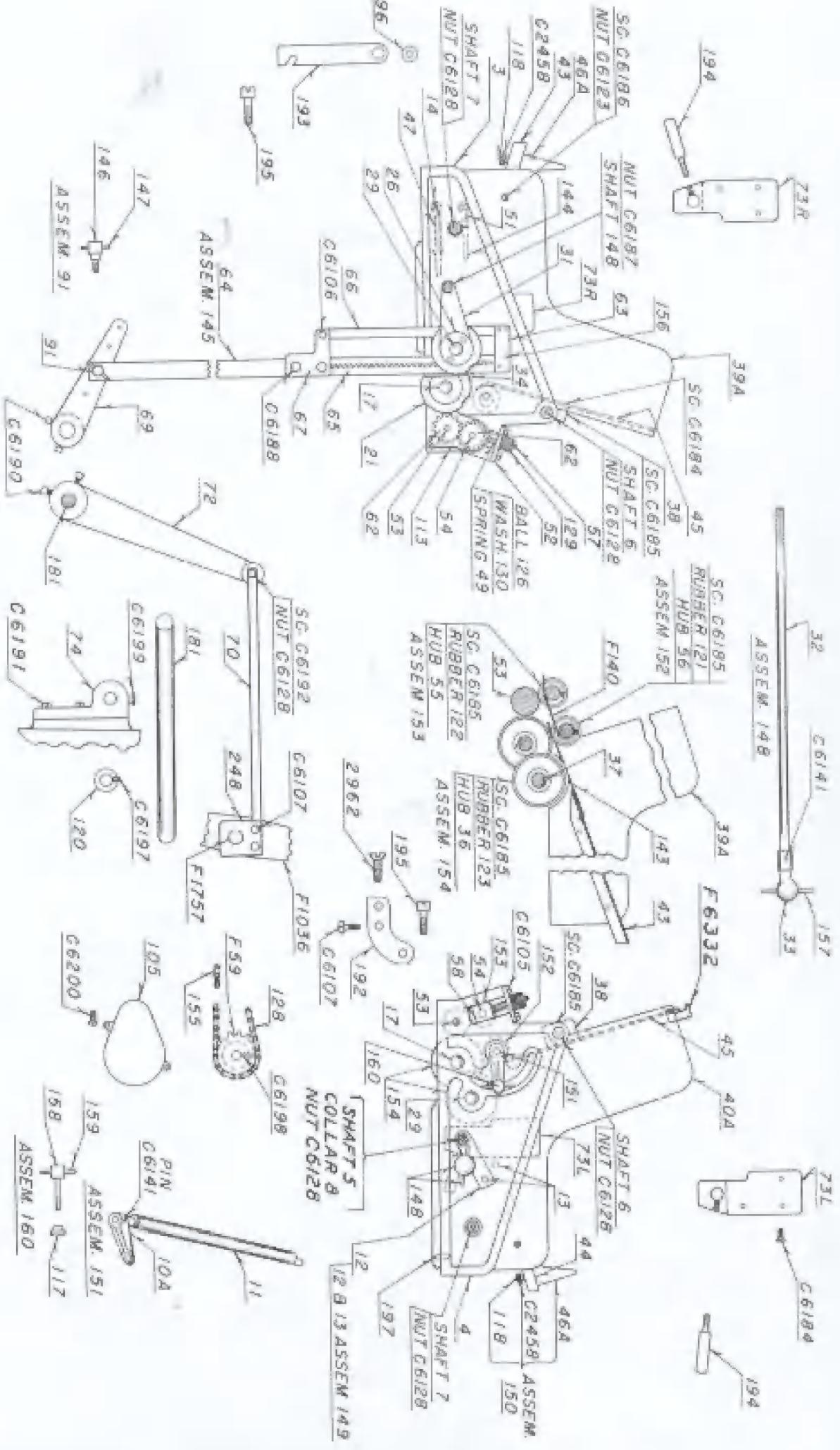


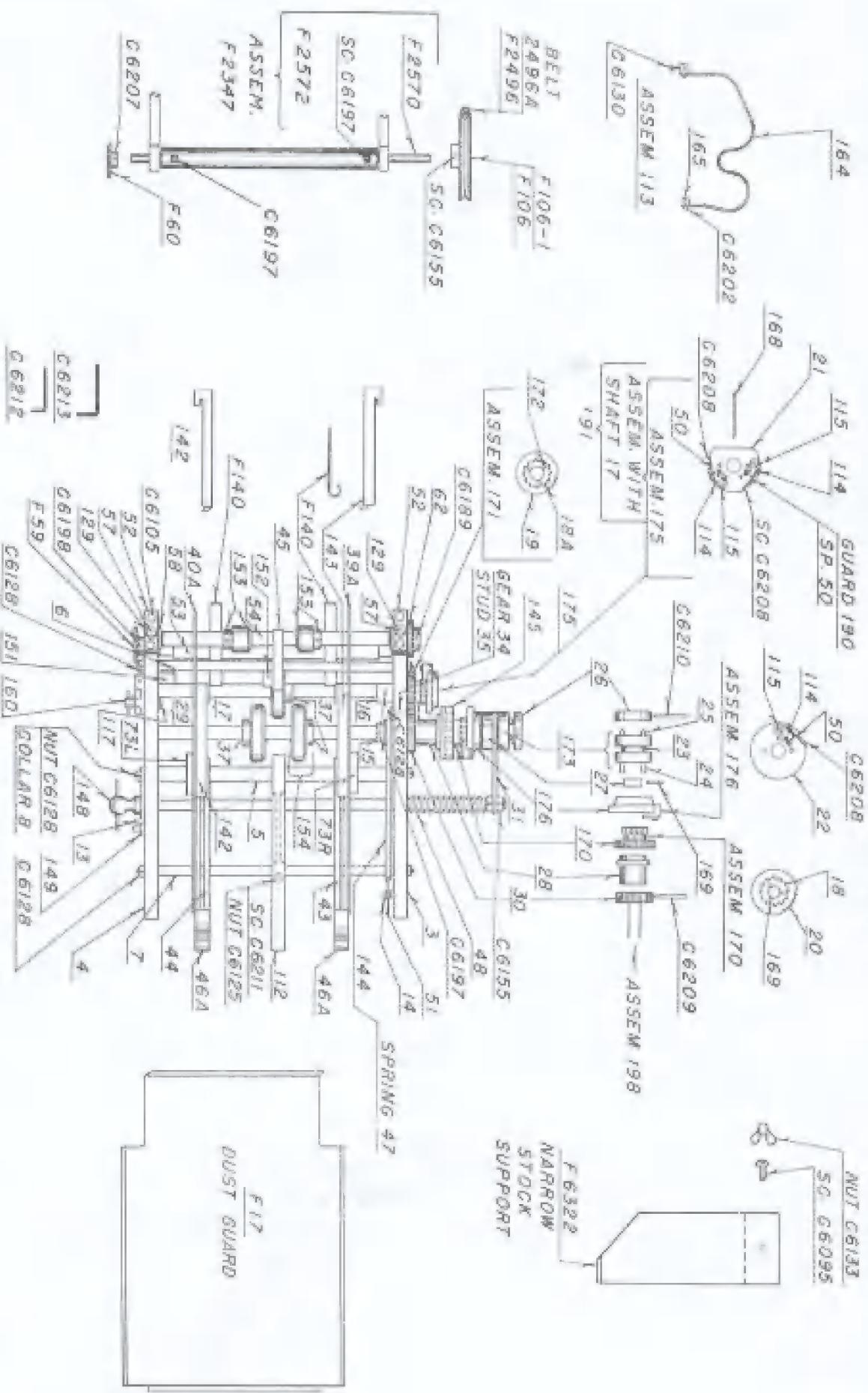


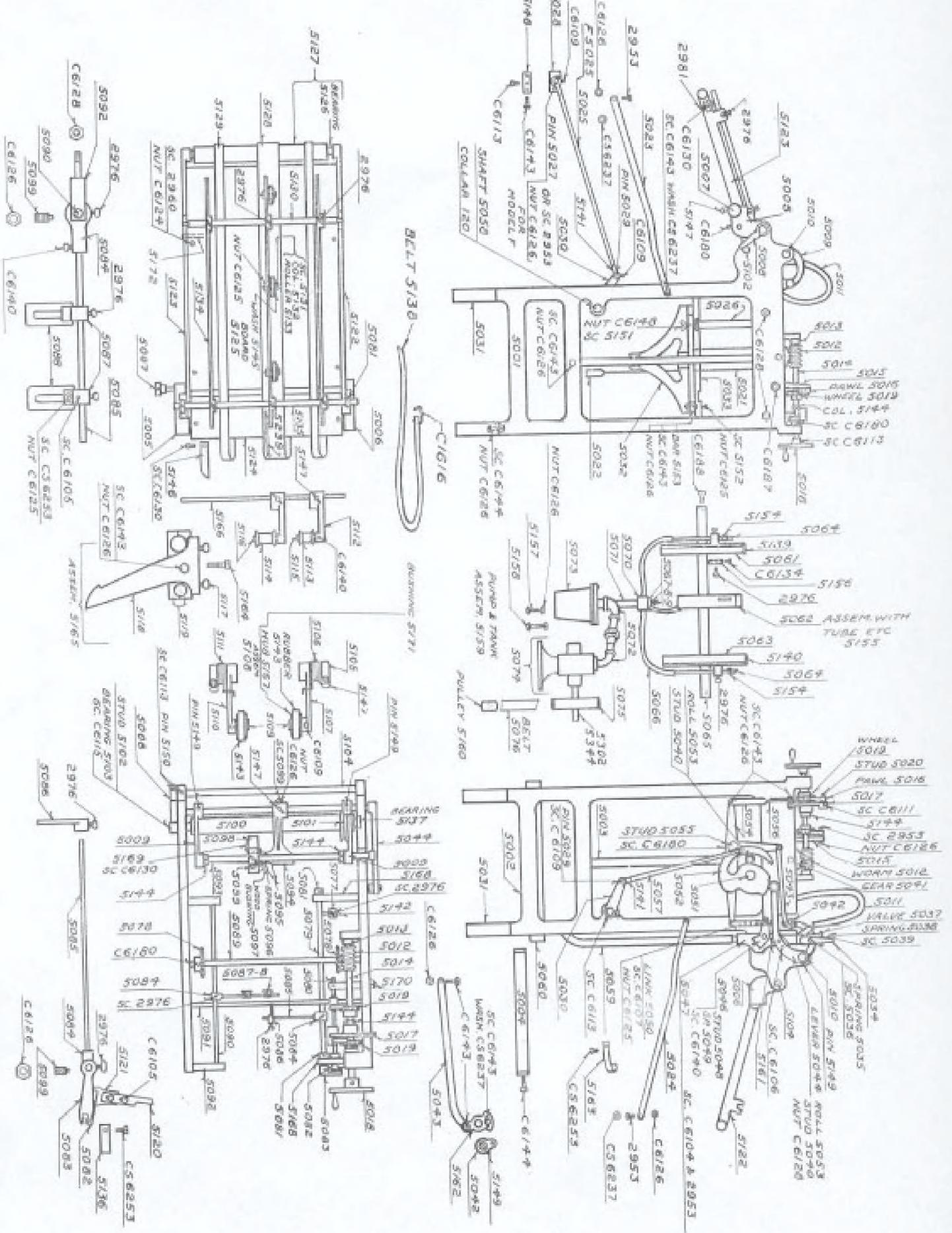


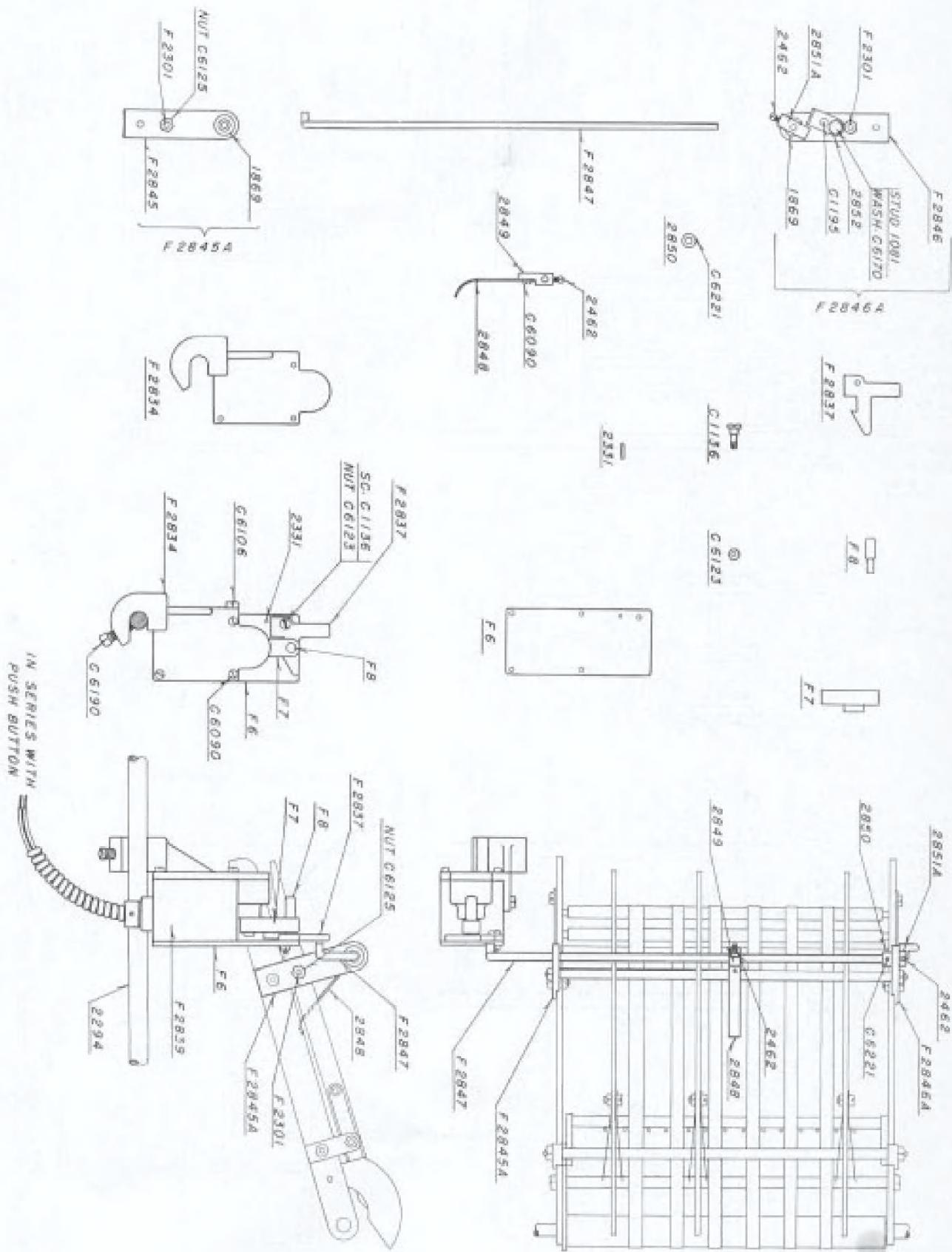




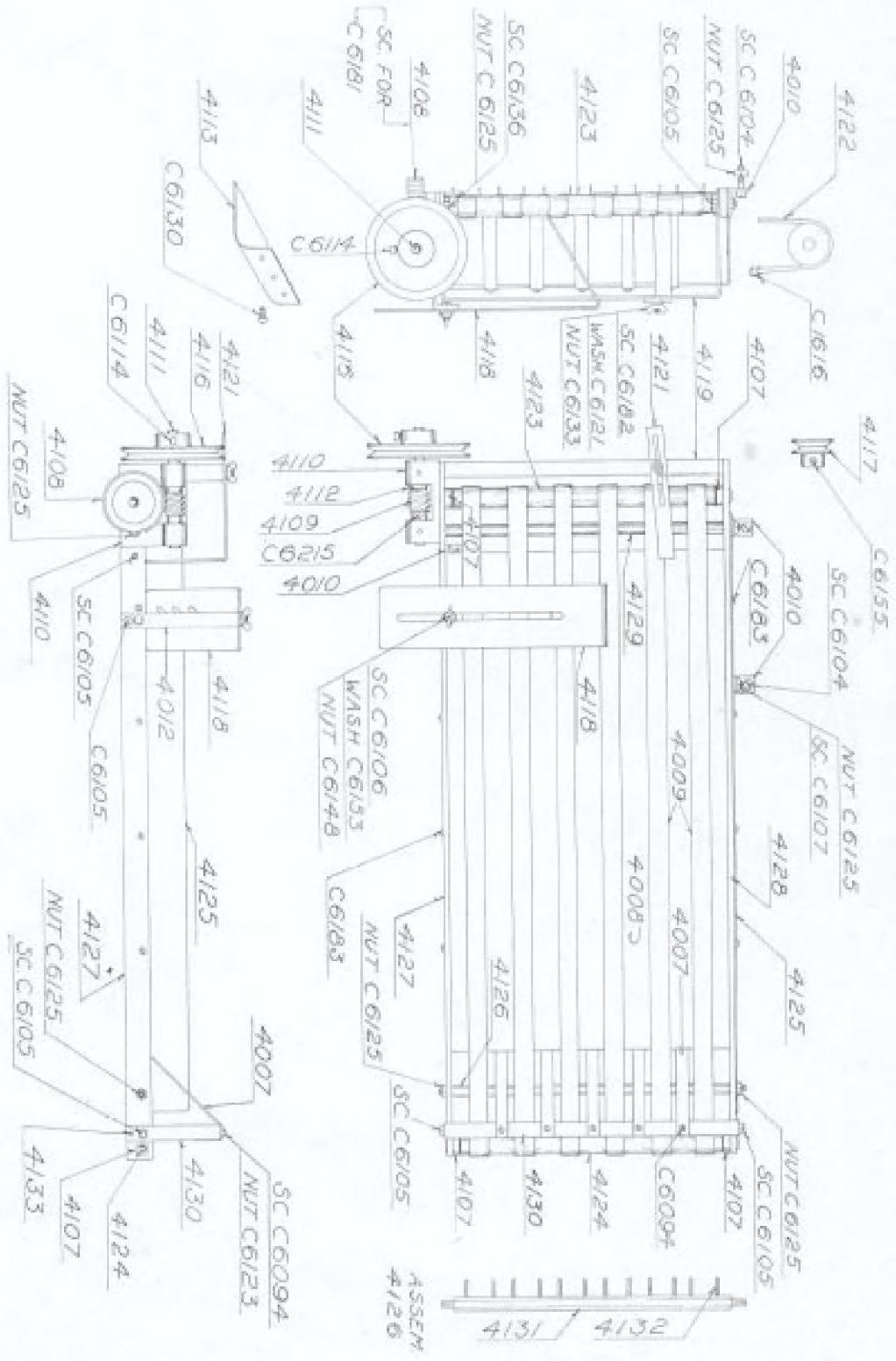




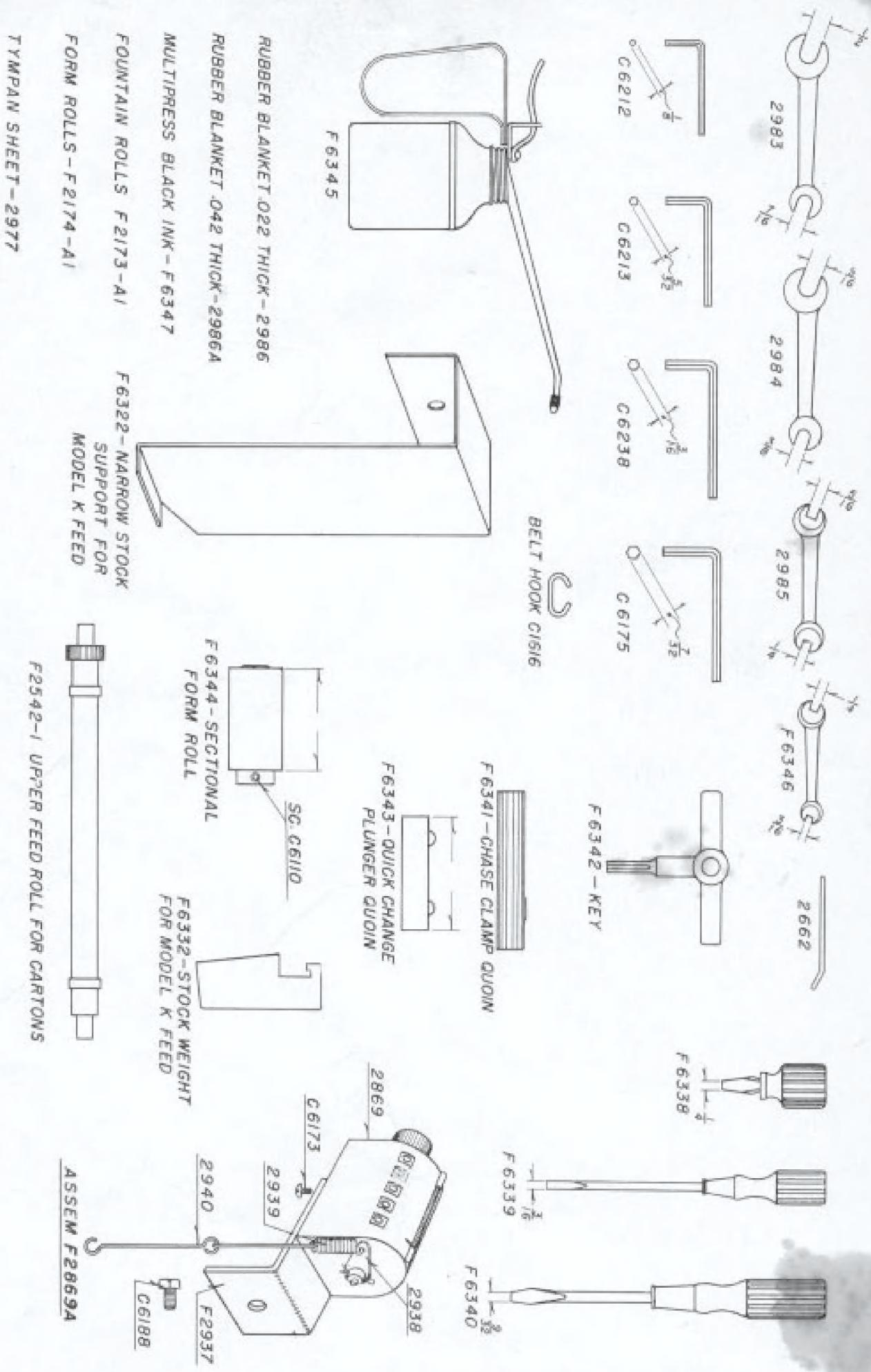




AUTOMATIC STOP



EXTENSION DELIVERY



ACCESSORIES